



From Large School Buildings to Small School Campuses

New Visions for Public Schools with Laura Kurgan

From Large School Buildings to Small School Campuses: Orchestrating the Shift

**New Visions for Public Schools
with Laura Kurgan**

New Visions for Public Schools, founded in 1989, is the largest education reform organization dedicated to improving the quality of education children receive in New York City's public schools.

We believe that school facilities that support instruction are an essential element of school creation. New Visions has funded this work to spur innovation, with a specific focus on the intersection of school facilities and pedagogy.





Exterior signage identifies schools sharing the South Bronx Campus.

Philip Greenberg

This book is dedicated to the people of the New Century High Schools: the 20,000 students and their families, the principals, the teachers and school staffs, and 225 partnership organizations.



**THE NEW YORK CITY DEPARTMENT OF
EDUCATION**

JOEL I. KLEIN, *Chancellor*

OFFICE OF THE CHANCELLOR
52 Chambers Street – New York, NY 10007

November 2005

Dear Colleagues:

Like the rest of the United States, one of New York City’s greatest school reform challenges is at the secondary-school level. To increase the number of quality educational options for students and their families, the Department of Education has opened 149 new small secondary schools over the last three years, including schools opened in partnership with New Visions through the New Century Initiative. The common features of the new small schools are academic rigor, personalized learning environments, and partnership with non-profit organizations, cultural institutions, and businesses that bring additional resources to enhance learning. Attendance and promotion rates in these schools are already demonstrating encouraging improvement, and we look forward to the new schools’ graduating their first classes over the next few years.

In New York City, working with New Visions and other partners, we have pioneered an innovative solution to the challenge of secondary school reform by creating campuses of schools in place of historically low performing large high schools. Through the work described in this book, many of our new small schools now share space with one another and with large schools in substantially redesigned campus buildings that once housed only the large schools. The New York City School Construction Authority, the NYC Department of Education’s Office of New Schools, and a variety of partners have been actively involved in the effort to create these new learning environments. This book describes the redesign of 21 campuses over the course of the past year. Building on the shared thinking of educators and design professionals, we have worked to create physical spaces that support instructional strategies that meet the needs of students in the 21st century.

We thank the students, principals, and teachers, as well as the New York City School Construction Authority and the design firms engaged in this work, along with New Visions for Public Schools and our other non-profit partners. Each has played a critical role in creating the shared campuses of the next generation of high schools in New York City. We invite the communities that these buildings serve to visit them and learn more about the tremendous changes underway in our schools.

Joel I. Klein

Chancellor
New York City Department of Education

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Students engage in group work in a flexible classroom setting.

Philip Greenberg

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1. Background: From Large Schools to Small Schools



Matthew Septimus

Students travel to the Brooklyn Botanical Gardens for a class that supports their school's theme.

The context of high school reform

The New York City Department of Education, like other urban public school systems, is facing the task of reforming many large high schools that have had graduation rates under fifty percent for many years. With new federal sanctions for failing schools under the No Child Left Behind Act, many schools nation-wide that have been prominent institutions in their neighborhoods for decades are now slated to close.

One promising strategy to reform secondary education is to create small schools with rigorous and personalized instruction for students in the place of large low-performing schools. With limited construction funding, New York City has turned to adaptive reuse of large high school structures to house a substantial majority of the new small secondary schools opened as part of this reform effort since 2002. The need to maintain the use of existing buildings meant that growing small schools and phasing-out large schools share the same buildings over a multiyear transition period.

This book describes the Department of Education's dynamic approach to the nexus of academic reform and architectural adaptation, as buildings evolved to become campuses of small schools. As other school systems embark on large-scale high school reform strategies, the solutions New York found may assist them in this transition.

Convergence of factors favoring change

Key to the launch of New York City's high school reform work was the state legislation passed in 2002 granting Mayor Michael Bloomberg control of the school system. With a unified governance structure and clear mandate for change, the Department of Education planned a series of coordinated reforms under the title "Children First". As one element of this program, the Mayor and Schools' Chancellor Joel Klein committed to create 200 new small secondary schools and charter schools in five years, while closing historically low-performing schools. This decision required clarity of purpose and political will. Also newly under mayoral control, the New York City School Construction Authority reduced its costs of construction and focused on supporting the Children First agenda. A year later, the adoption of the largest Five Year Capital Plan in the history of the school system included \$4.6 billion dedicated to schools undergoing restructuring and provided the promise of needed construction financing to support small school creation within existing school buildings. Full funding will ultimately be determined through the resolution of *CFE v. State of New York*, New York State's school financing case.

Before Children First, the New York City school system was divided into thirty-two districts of elementary and middle schools and six entirely separate districts for high schools. In 2002, all schools were reorganized into ten regions, each containing schools across the full pre-kindergarten to high school continuum. This context reinforced the need to think of high schools

as providing a portfolio of choices for all eighth graders throughout a region, a borough, and the City.

The small secondary schools and high schools that emerged differ significantly from one another in theme, philosophy, approach to instruction and, as it turned out, customized space requirements. However, they all share certain characteristics. Each school has at least one nonprofit partner, harnessing the resources of New York City's many nonprofit organizations to strengthen student learning. Each school's programmatic design is based on a set of research-based principles, such as academic rigor and a personalized environment. Finally, each school's goal and themes, as designed by groups of educators and nonprofit partners, are aligned with and supported by a framework of system-wide standards.

New York City's small school reform strategy has earned the support of major national foundations. The Bill & Melinda Gates Foundation, the Carnegie Corporation, and the Open Society Institute became funders of the New Century High School Initiative, providing the planning and four-year start-up grants necessary for groups of educators and partner organizations to develop and implement proposals for new schools. This multiyear commitment of funds created the context for long-term planning of curriculum and school culture. In turn, this academic planning permitted educators to think about their space needs over a multiyear horizon and with an unusual depth of detail.

The foundations turned to New Visions for Public Schools, an intermediary with over a decade's experience in new school creation in New York City, to be the lead partner in the New Century High School Initiative. In addition to the Department of Education, New Visions, the three foundations, and the two major unions of the school system—United Federation of Teachers and Council of Supervisors and Administrators—joined the initiative and lent their support to moving small school creation to scale.

These partners opened seventy-eight New Century High Schools between fall 2002 and fall 2005. By 2004, New Visions was joined by more than ten intermediary organizations acting as catalysts for the creation of additional high schools funded by the Bill & Melinda Gates Foundation. The master planning of emerging campuses of small schools is shaped by many constraints and opportunities at a moment in time.

Department of Education
2005–09 Capital Plan

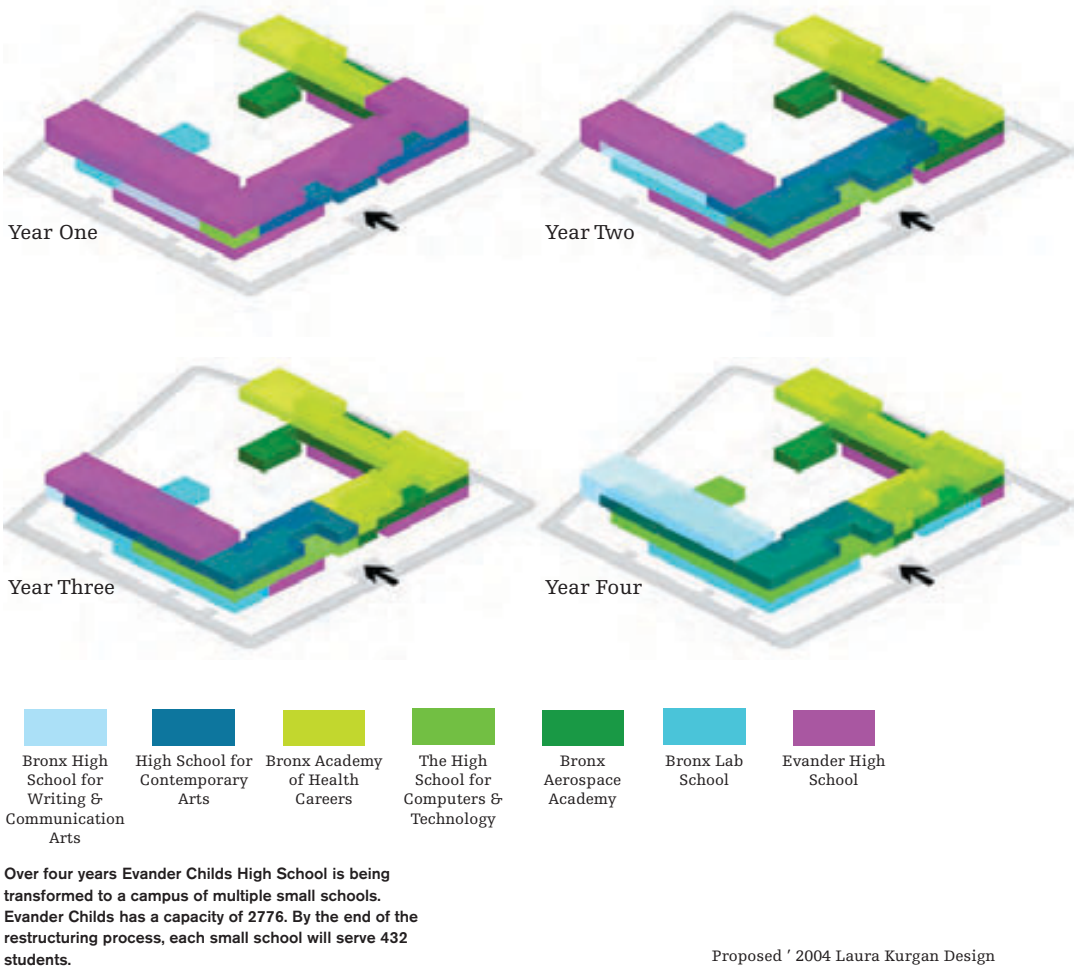
TOTAL PROPOSED	\$13.1 billion
New construction*	\$4.3
Upgrading existing facilities*	\$4.3
Restructuring current school space*	\$4.6

While the need to transform campuses was a driving factor in the planning process, the availability of resources made the extensive renovations possible. Included in the Department of Education's proposed 2005–09 Capital Plan was \$4.6 billion for restructuring current school space— a category that included reconfiguring existing buildings to accommodate multiple autonomous schools. This funding plan averaged approximately \$12 million per large campus building over the five-year period. State funding to support this ambitious plan remains in question.

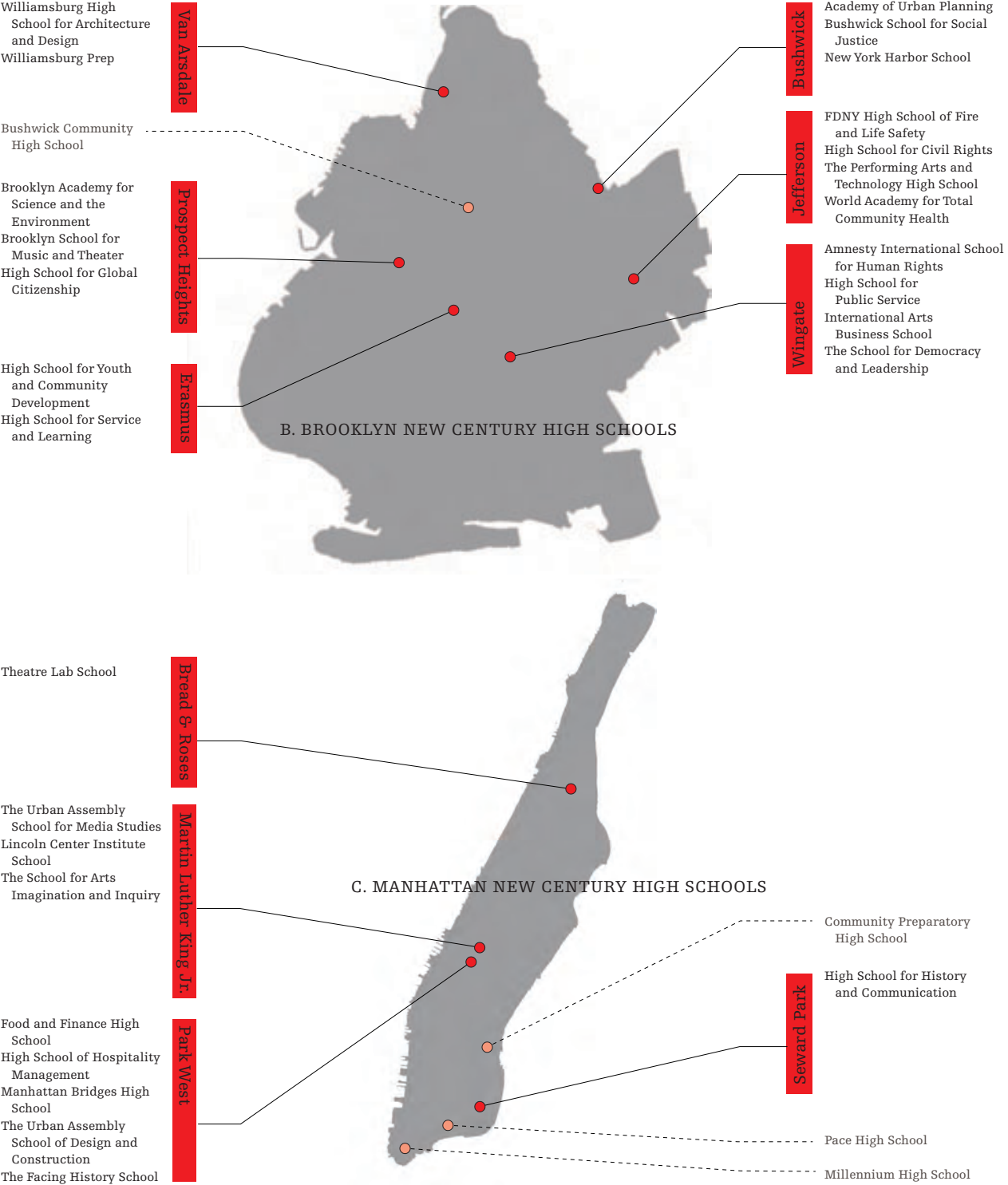
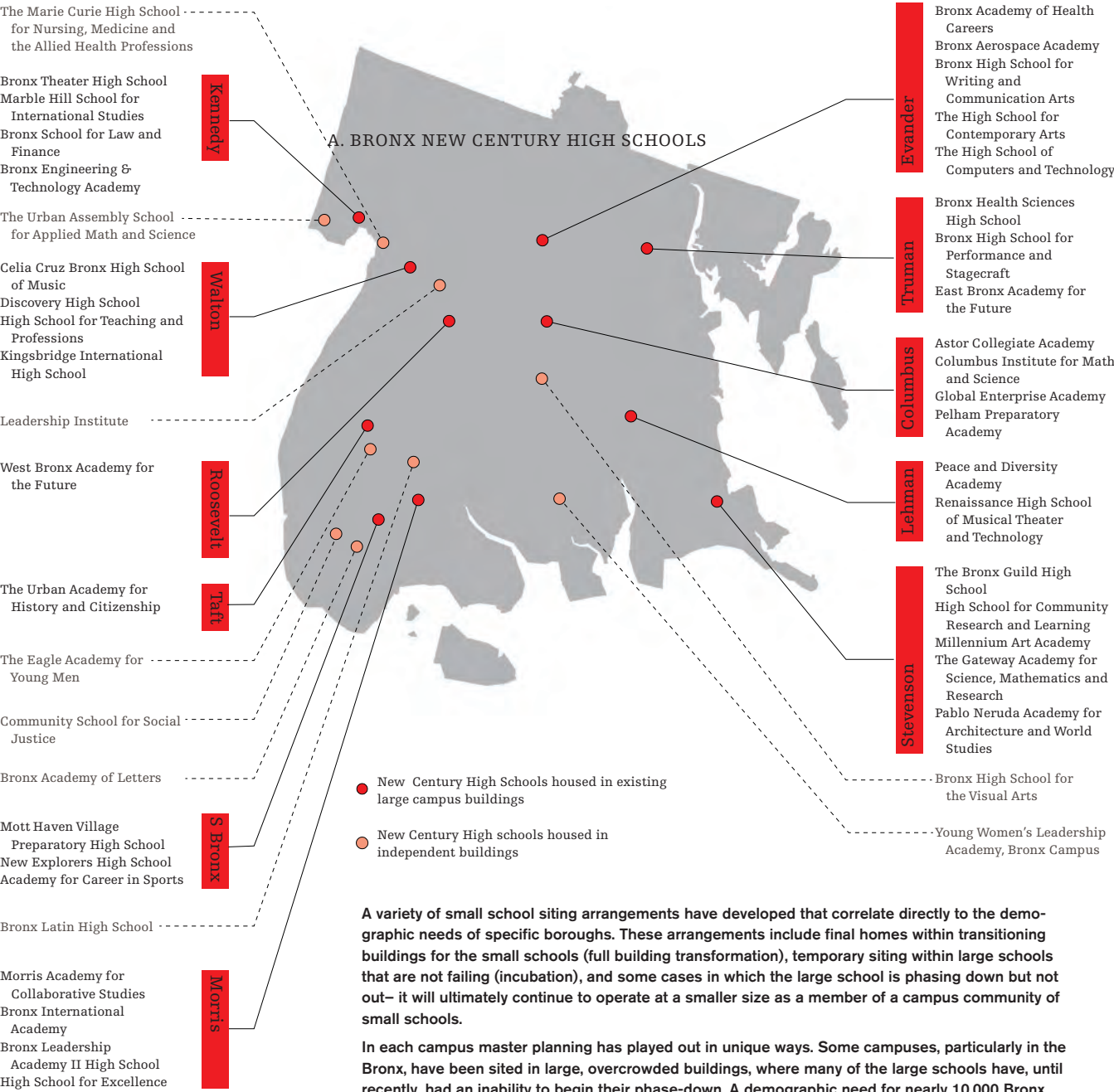
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Adaptive reuse of high school buildings

The adaptive reuse of large high school buildings is a necessary complement to the construction of new buildings for reasons of limited financial resources and the speed at which the spaces can be restructured. The concept of a campus of small schools requires a customized approach to meet the needs of unique and varied small schools and to support students in large transitioning schools. Weaving together insights of educational and architectural professionals requires an iterative and collaborative process for which there was no real precedent. Finally, to mobilize the necessary large-scale construction efforts and to standardize process across twenty-one high school buildings citywide, master planning needed to become a focus of coordinated effort.



76 Percent of New Century High Schools Are Housed in Large Buildings



New York City's Diverse School Building Stock

CAMPUS FOOTPRINTS
Over the years, school buildings remain representative of various architectural and political eras, forming a heterogeneous collection. Too often, these buildings have been subjected to ad-hoc processes of rehabilitation to address contemporary education reform efforts. Practice has now changed. Within the past four years, new, small public secondary schools have been placed in twenty-one existing large public school buildings in New York City. As the city moves towards a goal of opening 200 small schools, and as each of these schools grows grade by grade, these transformations will continue over the next several years, guided by four-year master plans.

2003—04 data on capacity
2005 data on small school location



Evander Childs High School
Bronx, NY/Region 2/Capacity 2,776 students
Small Schools Housed in Evander Childs Campus:
Bronx Academy of Heath Careers, 2004
Bronx Aerospace Academy, 2003
Bronx High School for Writing & Communication Arts, 2004
High School for Contemporary Arts, 2003
The High School of Computers & Technology, 2004
Bronx Lab School, 2004



South Bronx High School
Bronx, NY/Region 9/Capacity 1,108 students
Small Schools Housed in South Bronx Campus:
Mott Haven Village Preparatory High School, 2002
New Explorers High School, 2003
Academy for Career in Sports, 2003



William Howard Taft High School
Bronx, NY/Region 1/Capacity 2,483 students
Small Schools Housed in Taft Campus:
The Urban Academy for History & Citizenship, 2004
Bronx Expeditionary Learning High School, 2004
Bronx High School of Business, 2002
Jonathan Levin High School for Media & Communications, 2002
High School of Medical Science, 2002



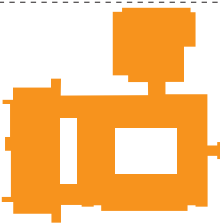
Prospect Heights High School
Brooklyn, NY/Region 6/Capacity 2,160 students
Small Schools Housed in Prospect Heights Campus:
Brooklyn Academy for Science & the Environment, 2003
Brooklyn School for Music & Theater, 2003
High School for Global Citizenship, 2004
The International High School at Prospect Heights, 2004



Springfield Gardens High School
Queens, NY/Region 3/Capacity 2,390 students
Small Schools Housed in Springfield Gardens:
Excelsior Academy, 2004
George Washington Carver Academy, 2004
Queens Preparatory Academy, 2005



Herbert H Lehman High School
Bronx, NY/Region 2/Capacity 3,796 students
Small Schools Housed in Lehman Campus:
Peace & Diversity Academy, 2004
Renaissance High School of Musical Theater & Technology, 2004



Adlai E. Stevenson High School
Bronx, NY/Region 2/Capacity 3,128 students
Small Schools Housed in Stevenson Campus:
The Bronx Guild High School, 2002
High School for Community Research & Learning, 2003
Millennium Art Academy, 2004
The Gateway Academy for Science, Mathematics & Research, 2004
Pablo Neruda Academy for Architecture & World Studies, 2004



Bushwick High School
Brooklyn, NY/Region 4/Capacity 1,658 students
Small Schools Housed in Bushwick Campus:
Academy of Urban Planning, 2003
Bushwick School for Social Justice, 2003
New York Harbor School, 2003



Thomas Jefferson High School
Brooklyn, NY/Region 5/Capacity 1,972 students
Small Schools Housed in Jefferson Campus:
FDNY High School of Fire & Life Safety, 2004
High School for Civil Rights, 2004
The Performing Arts & Technology High School, 2004
World Academy for Total Community Health High School, 2004



Martin Luther King, Jr. High School
Manhattan, NY/Region 10/Capacity 2,961 students
Small Schools Housed in MLK Campus:
The Urban Assembly School for Media Studies, 2004
The School for Arts, Imagination & Inquiry, 2005
MLK, Jr High School for Arts & Technology, 2002
MLK, Jr High School for Law, Advocacy & Community Justice, 2002
Manhattan/Hunter College High School for Science, 2003



John F. Kennedy High School
Bronx, NY/Region 1/Capacity 3,765 students
Small Schools Housed in Kennedy Campus:
Bronx Theater High School, 2003
Marble Hill School for International Studies, 2002
Bronx School for Law & Finance, 2004
Bronx Engineering & Technology Academy, 2004



Theodore Roosevelt High School
Bronx, NY/Region 1/Capacity 2,662 students
Small Schools Housed in Roosevelt Campus:
West Bronx Academy for the Future, 2004
Bronx High School of Law & Community Service, 2002
Fordham Leadership Academy for Business & Technology, 2002
Fordham High School for the Arts, 2002
Belmont Preparatory High School, 2002



Erasmus Hall High School
Brooklyn, NY/Region 6/Capacity 2,849 students
Small Schools Housed in Erasmus Campus:
High School for Youth & Community Development, 2004
Erasmus Campus—Science/Math, 1994
Erasmus Campus—Humanities, 1994
Erasmus Campus—Business/Technology, 1994
High School for Service & Learning, 2004
Science Technology & Research, 2005



Harry Van Arsdale Vocational High School
Brooklyn, NY/Region 8/Capacity 1,552 students
Small Schools Housed in Van Arsdale Campus:
Williamsburg High School for Architecture & Design, 2004
Williamsburg Prep, 2004



Park West High School
Manhattan, NY/Region 9/Capacity 2,385 students
Small Schools Housed in Park West Campus:
Food & Finance High School, 2004
High School of Hospitality Management, 2004
Manhattan Bridges High School, 2004
The Urban Assembly School of Design & Construction, 2004
The Facing History School, 2005



Christopher Columbus High School
Bronx, NY/Region 2/Capacity 2,412 students
Small Schools Housed in Columbus Campus:
Astor Collegiate Academy, 2004
Columbus Institute for Math & Science, 2004
Global Enterprise Academy, 2003
Pelham Preparatory Academy, 2003



Morris High School
Bronx, NY/Region 1/Capacity 1,616 students
Small Schools Housed in Morris Campus:
Morris Academy for Collaborative Studies, 2004
Bronx International Academy, 2002
Bronx Leadership Academy II High School, 2002
High School for Excellence, 2002
High School for Violin & Dance, 2002



Walton High School
Bronx, NY/Region 1/Capacity 2,249 students
Small Schools Housed in Walton Campus:
Celia Cruz Bronx High School of Music, 2003
Discovery High School, 2003
High School for Teaching & Professions, 2002
Kingsbridge International High School, 2005



George W. Wingate High School
Brooklyn, NY/Region 6/Capacity 2,215 students
Small Schools Housed in Wingate Campus:
Amnesty International School for Human Rights, 2004
High School for Public Service, 2003
International Arts Business School, 2003
The School for Democracy & Leadership, 2004



Far Rockaway High School
Queens, NY/Region 5/Capacity 1,914 students
Small Schools Housed in Rockaway Campus:
Frederick Douglas Academy VI, 2004



Seward Park High School
Manhattan, NY/Region 9/Capacity 1,670 students
Small Schools Housed in Seward Park Campus:
High School for History & Communication, 2004
High School for Dual Language & Asian Studies, 2003
New Design High School, 2003
LOMA: Lower Manhattan Arts Academy, 2005
Urban Assembly Academy of Government & Law, 2005

2. The Shared Campus



A teacher is able to meet individual student needs in a classroom with a low student-teacher ratio.

Philip Greenberg

Creative applications of baseline standards

In New York City, the necessity of siting small schools in large existing buildings posed several significant challenges. A shortage of seats, resulting in overcrowding and buildings operating well above capacity, has plagued the school system for many years. Therefore, the successful transformation of a large building into a campus of small schools needed to maintain or increase the number of student seats, thereby maximizing building efficiency. At the same time, the transformation of the building afforded an exciting opportunity to rethink how design and rehabilitation could support the specialized academic programs of the small schools and allow them the autonomy to develop their unique school cultures and communities.

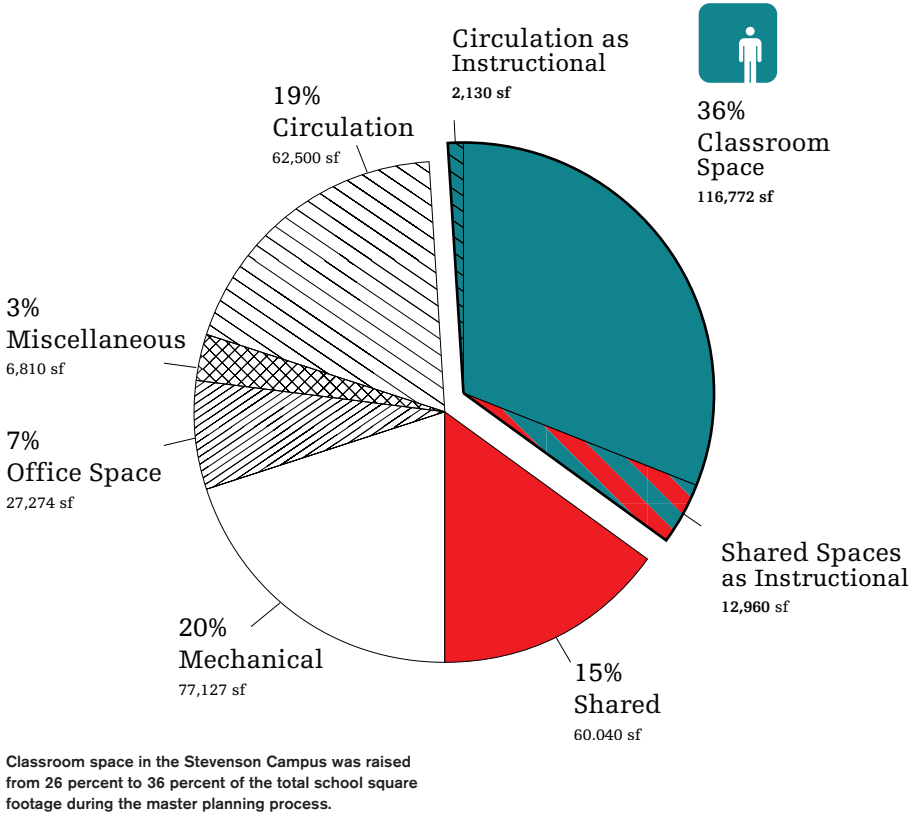
To facilitate the transformation of the school buildings for use by multiple organizations, the Department of Education and New Visions defined a set of three baseline standards:

- Redesign must maximize the use of any and all available space, from hallways to underutilized classrooms to obsolete spaces, and alleviate overcrowding.
- Small schools must be able to demarcate their autonomous territory to support their specialized academic programs and deliver quality academic instruction.
- All “tenants” of the building must be able to have access to shared programmatic and support service assets, such as libraries, gymnasiums, cafeterias, auditoriums, and health clinics, with circulation patterns that minimize disruptions to individual schools and passage through autonomous territory.

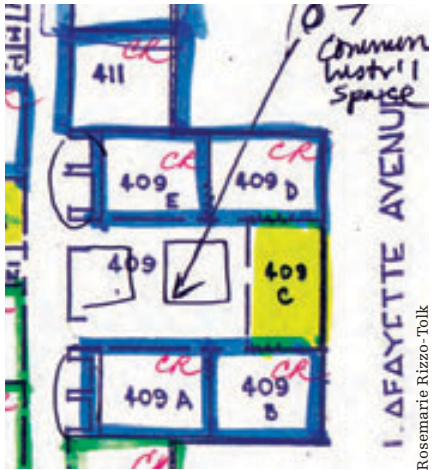
These standards emerged as principles essential to realizing an efficient master plan for a shared campus building, designed with education reform at its center. They created the framework for campus design teams to rethink the use of space within the shared campus. The following examples illustrate how specific campus buildings have succeeded in adapting these standards.

Standard:
Reclaiming space

Reclaiming space for instructional purposes wherever possible can relieve overcrowding. In cases where schools choose to focus their discretionary funds on additional teachers, reclaimed space can also enable smaller class size. Classrooms dedicated to obsolete uses— such as typing rooms, dysfunctional science labs, drafting rooms, woodshops, home economics rooms, and computer labs— can be converted to flexible classroom space. Other spaces— such as storage rooms, administrative offices, and corridors— hold potential for use as small group instruction spaces, meeting spaces, or informal learning environments. Office spaces are downsized and dispersed throughout the campus using space more efficiently and locate offices within each autonomous school. Large blocks of prime space (in some large schools, nearly entire floors) formerly dedicated to specialized administrative functions can be reconfigured as classroom space.



Applications



Common space newly created in the Stevenson Campus.

Converting Corridors to Flexible Multiuse Spaces

On the higher floors of the John F. Kennedy Campus, an unusually long institutional corridor comes to a wide dead-end at its northwest end. The corridor on one floor and a cluster of classrooms opening off it were assigned to a small school. Soon, school personnel were using the corridor for town meetings, tutoring and homework help sessions, morning and afternoon greetings, displays, and catch-all mailboxes. With the addition of comfortable furniture, the open space became a good spot for quick conversations between classes and an after-school refuge for students needing a quiet place to work. Seeing the value of the common area, design teams worked to create similar areas for other small schools on the southeast end of the building. An open space was eventually created by removing the corridor wall of a centrally located room.

This idea migrated to the Adlai Stevenson Campus. Long, squared-off corridors with little personality made the school anonymous and difficult to navigate. Strategically placed rooms were opened up to create informal common spaces and add variation to the small school layouts.

Capturing Obsolete or Underutilized Spaces

Many large school physical education departments were given license over the years to adapt classrooms for uses such as weight training, cardiovascular training, yoga, or dance. These facilities were desired by students, but they reduced the stock of available classrooms in overcrowded buildings. Master planning teams sought solutions that would balance the two needs.



An underutilized classroom at the Bushwick Campus will be reclaimed for use as instructional space.

At Evander Childs Campus, dance and weight training rooms had been established across the hall from two large gyms. Through the master planning process, the gyms were divided into sections, the dance and weight training rooms shifted into the new spaces, and the classrooms were returned to academic uses. Adaptations in later phases of the restructuring will include the development of additional auxiliary exercise rooms by reclaiming underutilized space in the cavernous boys' and girls' locker rooms. These solutions will help the seven schools sharing this campus to schedule physical education classes with greater efficiency.

Relocation of Guidance Suites

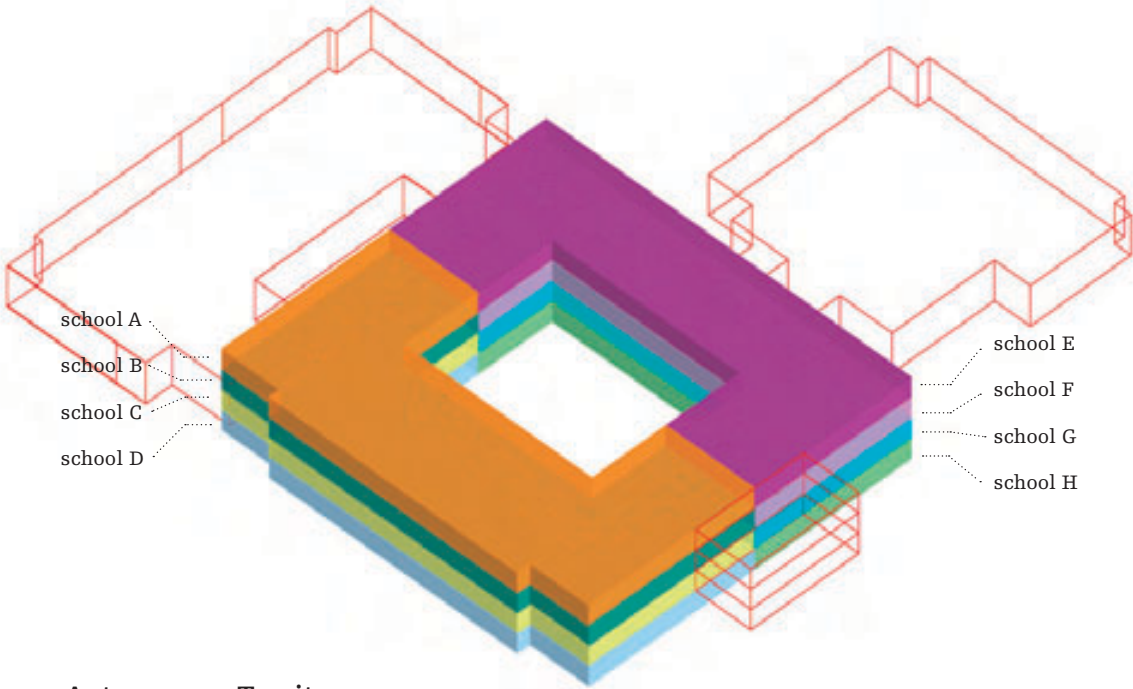
Nearly every large school was designed with a central guidance suite. Since small schools deliver their own guidance services in decentralized locations around the building, the former guidance area was slated for conversion to prime classroom space at Bushwick, Wingate, Walton, Evander Childs, Roosevelt, Columbus, and other campuses.

Standard:
Establish autonomous
territory

Each small school values its own territory, where a school community can establish its own identity and cultivate its own distinctive school culture. These goals are best served by territory that is compact and contiguous to the greatest extent possible, and oriented horizontally rather than vertically. When space constraints make a horizontal orientation impossible, then a vertical orientation to the most proximate floor is the next best solution.

Schools benefit when their identity is clearly demarcated by thresholds between schools or at building entrances. Schools can also use other “branding” tactics, such as banners, paint colors, and signage to define their space.

Cost constraints may require that specialty spaces, such as science labs and science demonstration rooms, be placed elsewhere in the building, outside of individual school territory. Likewise, shared spaces, such as the cafeteria, auditorium, library, and physical education rooms, will not be contiguous to each small school.



Autonomous Territory
Each small school has a distinct territory within the Stevenson Campus

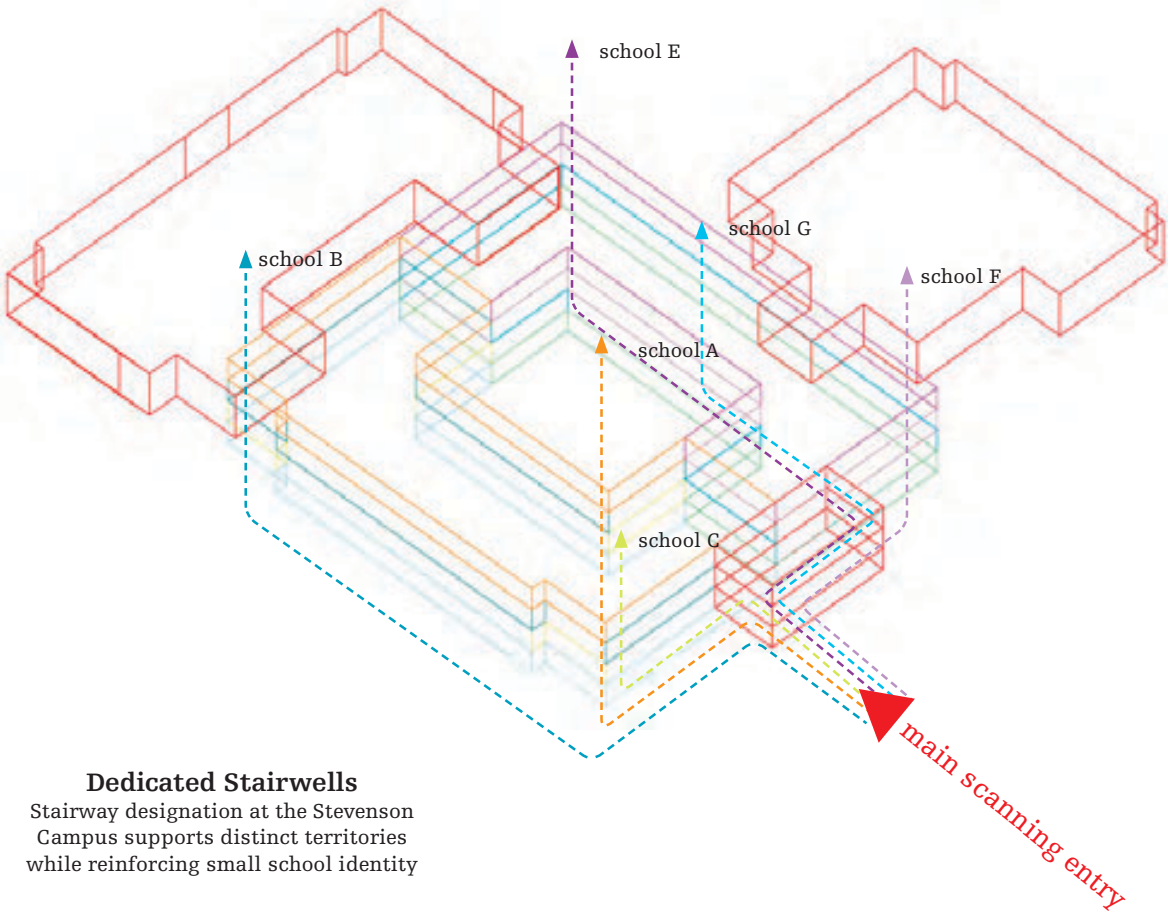
Applications



Threshold definition between small schools helps demarcate separate territory.

Visual Branding
Systems for demarcating boundaries or thresholds require thought and experimentation. Schools are testing several different threshold markers, including signage, a welcome station, a wall color shift, a fabricated floor decal, an electronic message sign, a banner hung from the ceiling, a light box featuring a school's logo, and an archway. New Visions has developed a visual branding program which has been implemented in collaboration with the New York City School Construction Authority in six campus buildings citywide. Additional visual branding projects will be implemented in ten campus buildings over the next few years.

Dedicated Stairwells
At Stevenson, each small school has distinct, contiguous territory in the building. Each floor is shared by two schools. A dedicated stairwell for each school supports these distinct territories by circulating students from the entry and the common spaces on the ground floor up to the individual schools. This distinct circulation reinforces each school's unique identity and its territory.

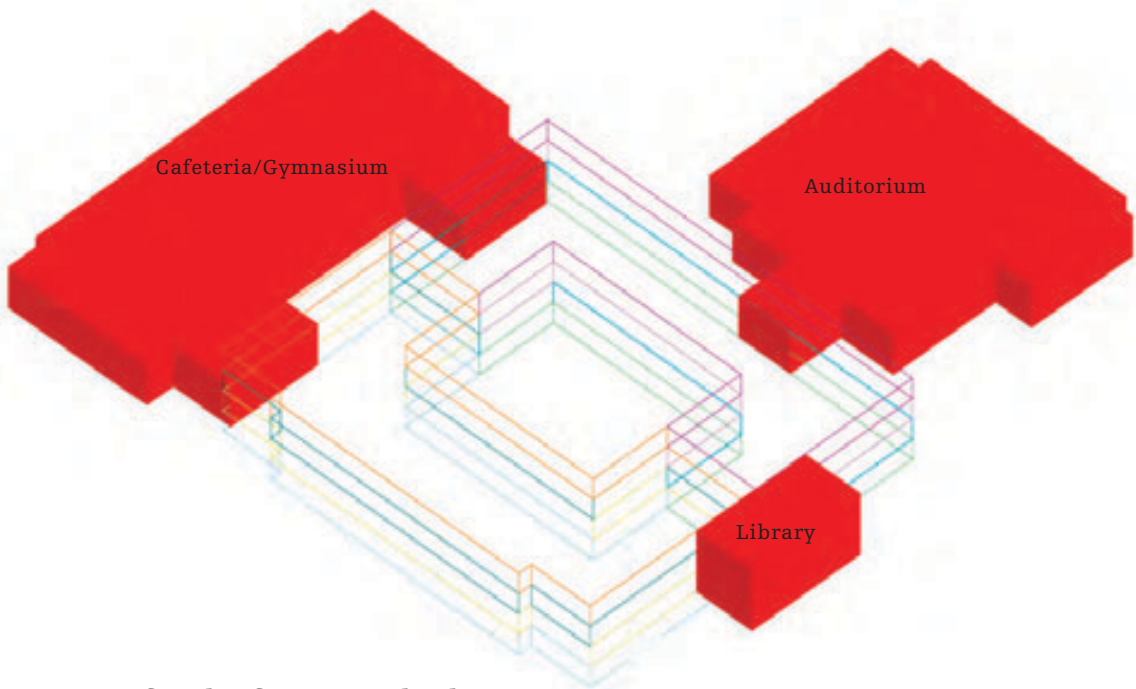


Dedicated Stairwells
Stairway designation at the Stevenson Campus supports distinct territories while reinforcing small school identity

Standard:
Share large assets

Each campus needs multi-purpose common space to accommodate student and faculty meetings, performances, presentations, and community uses. Shared assets, such as the cafeteria, auditorium, library, and physical education rooms, should be reasonably convenient to each school. Additional shared spaces, such as a town hall meeting space and college offices, proximate to the library, add curricular value. Circulation patterns and scheduling are key factors when making decisions about the size and location of and access to shared space. By using dedicated stairwells and limiting traffic through autonomous school territory, the master planning process can develop solutions to student circulation.

The building design can also meet the broader needs of the community. The gymnasium, library, health clinic, and flexible meeting space can be real assets to the community. Locating them in sections of the building that are easily accessible to outside users, such as the ground floor or basement, can promote broader opportunities for community use.



Economy of Scale of a Large School
Existing campus facilities including gymnasium, cafeteria, library, and auditorium are shared by all small schools in the Stevenson Campus

Applications



INSTRUCTIONAL SPACE



LUNCH



MEETINGS

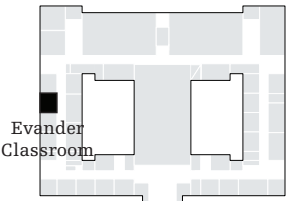
A flexible cafeteria creates space for several different uses, allowing the cafeteria to be fully functional beyond just lunch periods.

New Flexible Space: Cafeteria
At Bushwick Campus, the cafeteria is redesigned as valuable flexible-use space, in addition to providing food service. New furnishing and floor plan arrangements permit multiple-use opportunities. With chairs mostly separated from tables, a range of uses from culinary celebrations and town hall meetings to guest lectures and staff meetings can take place. An additional functionality being explored on other campuses includes large-screen projectors and computer technology to further support flexible use.

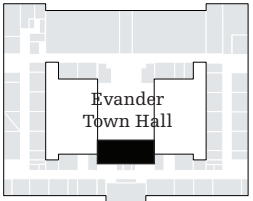
Library Relocations
Some teams decided to move school libraries from remote locations in their buildings to become centerpieces of their campuses. In the Harry Van Arsdale and Walton Campuses, libraries were neither close to the student cafeteria so that students could have access during breakfast and lunch, nor centrally located where students could drop in as they entered or left the building. Relocating libraries also provided an opportunity to install updated equipment and facilities.

Health Clinics
Some campuses have established relationships with hospitals and community-based organizations that provide on-site adolescent health clinics. The placement of the clinics, however, had not been subject to any clear standards. Most, for example, were entered from a regular corridor, affording little privacy to students who needed services. Several campuses, including Jefferson and Roosevelt Campuses, devoted considerable thought and resources to relocating clinics to more appropriate locations.

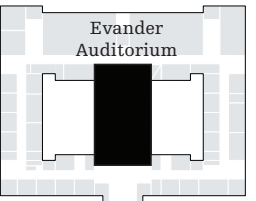
New Flexible Space: Town Hall Meeting Room
The town hall meeting room is a shared space larger than a classroom and smaller than the auditorium created in campuses where space permits. Schools have a need to convene various sizes of groups in environments that provide flexible space. A town hall meeting room represents a place within a campus for meetings of an entire class, a full faculty of one school, or community members. This space represents an opportunity for a mediating scale between the large school building and the small school territory. Many campuses have created these flexible rooms, including the Evander Childs Campus.



INDIVIDUAL SCALE
27 students per classroom



INTERMEDIATE SCALE
108 students per grade



LARGE SCALE
432 students per school

3. The Small School Footprint



This renovated classroom provides flexibility for a variety of seating configurations.

Framing the small school footprint

At the campus level, the baseline standards, described in the previous chapter, were critical in establishing a framework for multiple users to define the shared and autonomous spaces of the campus. Similarly, at the individual school level, the Department of Education and the New York City School Construction Authority needed to develop a standardized “small school footprint” that would be applicable across the spectrum of different schools and different buildings. The resulting small school footprint identifies all of the dedicated spaces that each individual small school would need to operate in a large campus building, as well as a list of necessary spaces to be shared by all schools in the building. It is designed to accomplish several objectives simultaneously:

- Create space efficiencies so that the rated student capacity of campus buildings remains equal to the capacity before the conversion to multiple small schools.
- Align the ten research-based principles for effective schools, which are the scaffolding around which each New Century High School is created, into the layout and function of the schools' physical environment.
- Allow for campus-to-campus adaptations of the footprint to accommodate the architecture of each school building, no two of which are exactly alike, and ensure that design supports the unique instructional needs of the various schools within a campus.

Space efficiency

To achieve space efficiencies in large buildings, the Department of Education defined the footprint as the minimum space resources which each small school would need for day-to-day operations. The Department's Office of New Schools established two prototypes for small schools: 1) a small high school of 432 students serving grades nine to twelve in classes of twenty-seven students; 2) and a secondary school of 567 students serving grades six to twelve, also with twenty-seven students per class. The high school would have four classrooms for each grade; the secondary school would have three.

These student-per-classroom assumptions represent a significant reduction in class size from the current assumption of programming up to thirty-four students-per-classroom. Under past practice, specialty rooms such as science labs were not included in the student-per-classroom calculation because they typically were not programmed every period of the day. However, the small school footprint is able to maintain efficiency by designing all instructional spaces to be flexible, so that classrooms and other spaces could be fully programmed throughout the entire day. These flexible spaces enabled schools to reduce class sizes if they choose to allocate their discretionary funds to additional teachers.

Principles for effective schools catalyze design

- TEN PRINCIPLES OF EFFECTIVE HIGH SCHOOLS
1. **Rigorous Instructional Program**

2. **Personalized Relationships**

3. Clear Focus and Expectations

4. Instructional Leadership

5. School-based Professional Development and Collaboration

6. Meaningful Continuous Assessment of Student Learning

7. **Partnerships with Community Organizations**

8. **Family/Caregiver Engagement and Involvement**

9. Student Participation and Youth Development

10. **Effective Uses of Technology and Information Resources**

The New Century High Schools Initiative identified ten research-based principles as the design framework for each New Century High School. These principles of effective schools set a standard by which schools meet the academic, developmental, and social needs of their students. Five of these principles in particular are instrumental in defining the space requirements for each school.

Rigorous Instructional Program requires that each school's unique instructional requirements drive both the allocation and fitting out of space. Flexibility in designing learning spaces is essential, because learning can shift from inquiry-based projects, to small collaborative learning groups, to individual assignments each period of the day. Teacher location is not fixed at the front of a classroom, but is mobile, depending on the purpose and design of each lesson.

Personalized Relationships require the scale of each school to be manageable. Placement of office space throughout a school's territory should allow for frequent adult-student interaction. Class size is another essential factor to be considered.

Partnerships with Community Organizations require the allocation of space that supports specialized partnership activities within a school, such as Fire Safety Training or a Forensics Lab, as well as office space for the community organizations linked to the school.

Family/Caregiver Engagement and Involvement, as an essential element in the success of all schools, requires that permanent space be allocated within each school for parent coordinators or parent/caregiver representatives, allowing for administrative tasks, storage, and meeting space.

Effective Uses of Technology and Information Resources require that each of the schools be planned with current and future technological innovations in mind. Spaces should be outfitted with wireless capability, rather than using one designated classroom as a technology center. Additional technology needs to complement the specific focus and instructional needs of each school.

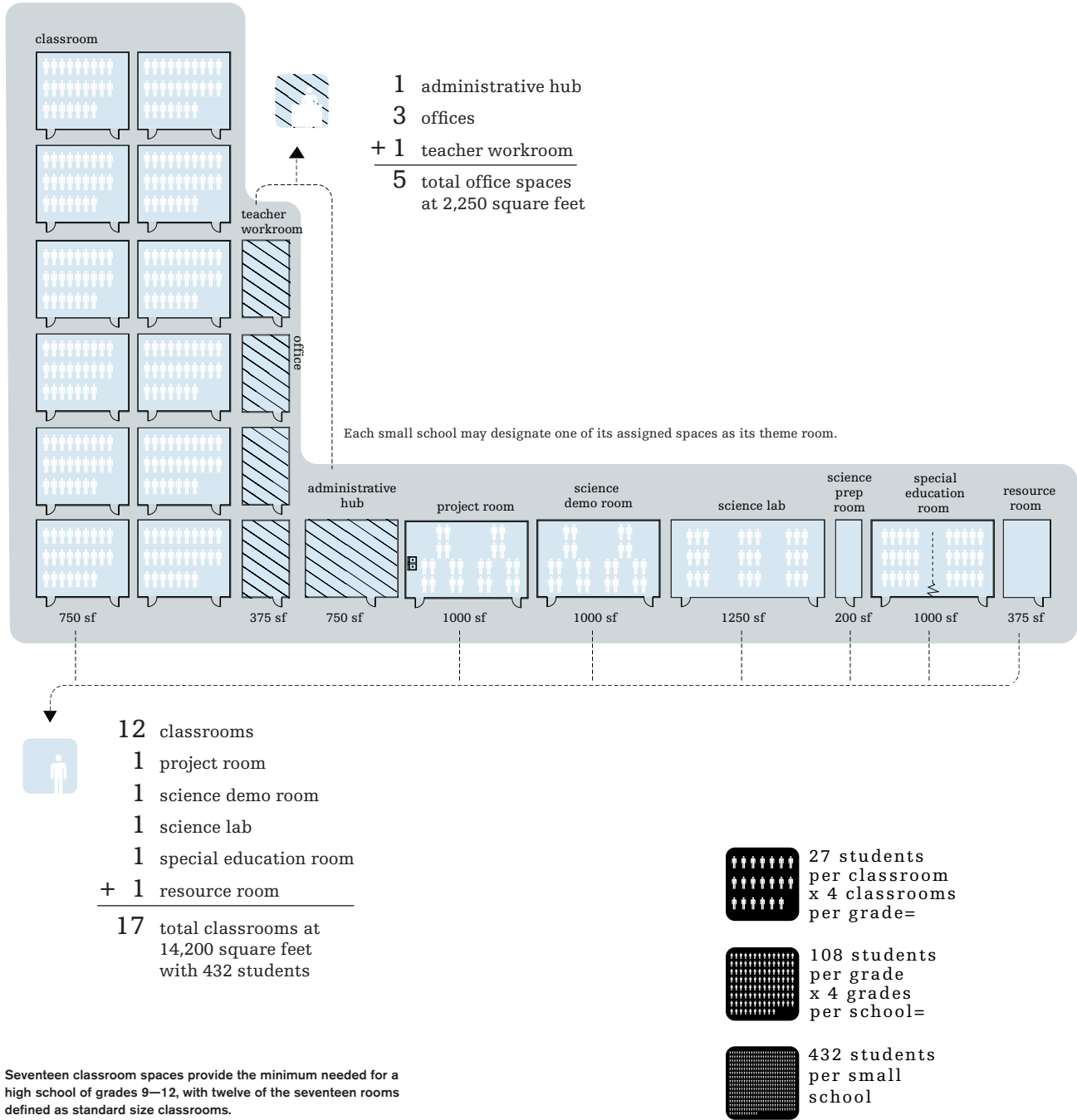
Adaptations of the small school footprint

The unique instructional needs of schools and the diversity of the building stock required different approaches for different buildings. While budget constraints prevented the widespread demolition of walls to achieve nontraditional instructional spaces, flexible adaptation of the small school footprint to meet the emerging needs of the small schools was a key goal. Rooms such as a project room, a science demonstration room, and a flexible special education room were created to add functionality to each autonomous school while maintaining efficiency. This chapter illustrates some concepts that emerged from the master planning to enable effective teaching and learning spaces within the footprint and to assist teachers and students in taking ownership of their spaces.

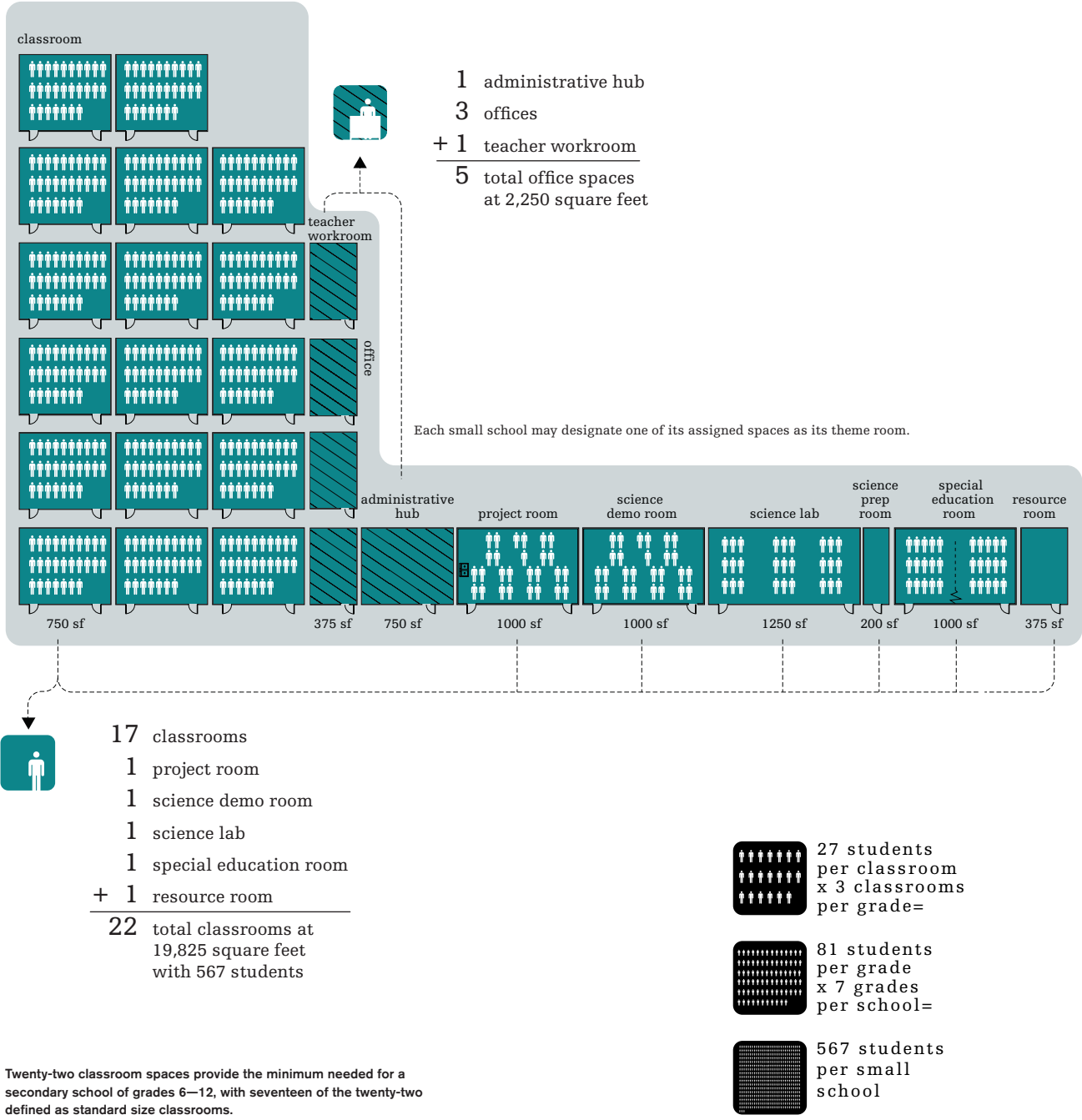
On the following pages, the components of the small school footprint will be explained in greater detail.

The footprint is defined as the minimum space resources that each small school needs for teaching and learning.

Small School Footprint for Grades 9—12



Small School Footprint for Grades 6—12



Applying the footprint:
Flexible classroom

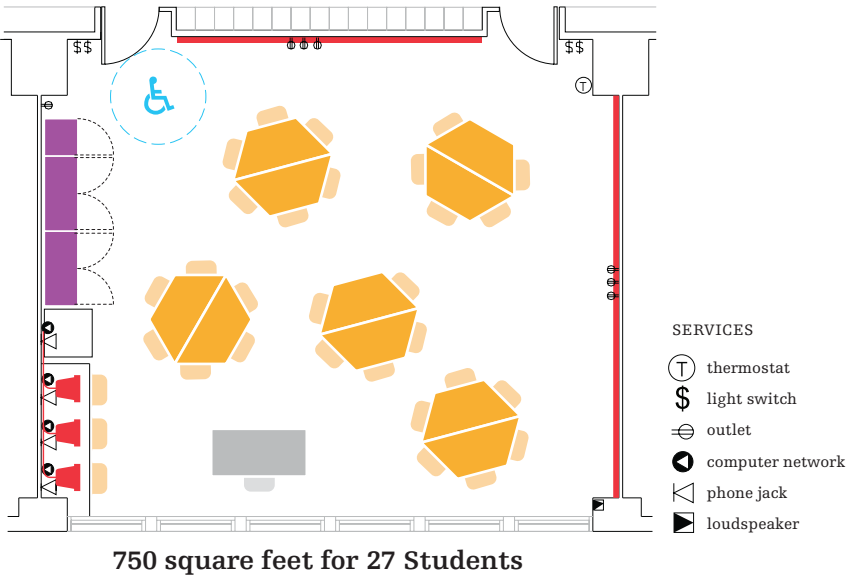


Students are fully engaged in a lively classroom discussion.

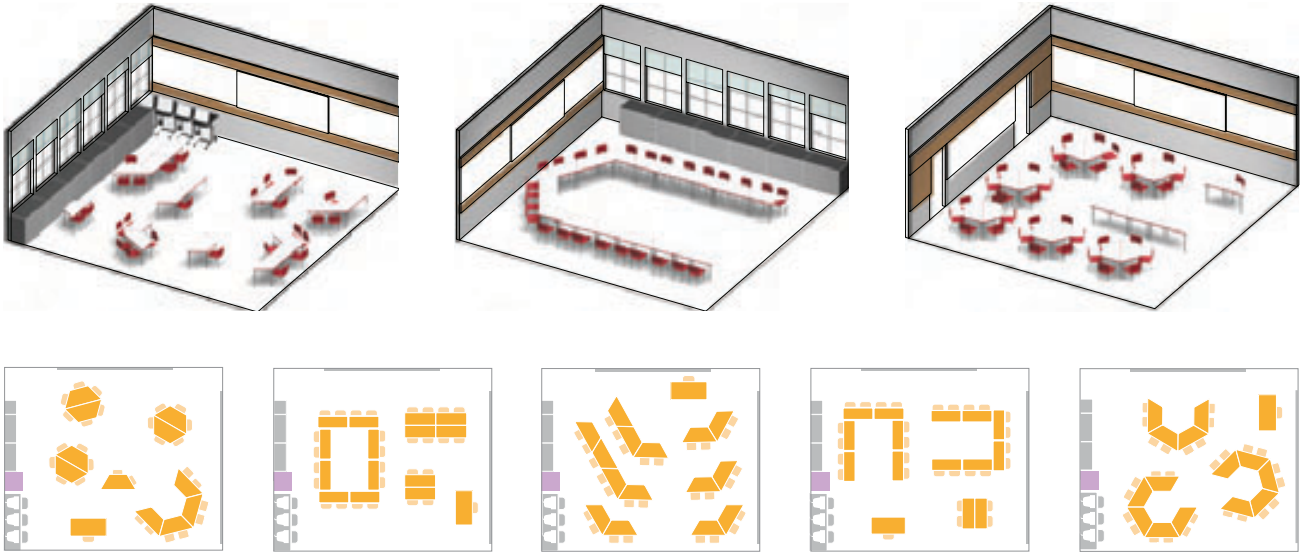
In general, New Century High Schools have moved away from a traditional arrangement of a teacher standing in front of a classroom delivering a lecture. The placement of people, furniture, and materials in a classroom are focused around the intent of a lesson, and hence the shape and organization of the tables should encourage active and participatory models of teaching and learning. Furniture that can be arranged flexibly in a variety of small group arrangements is essential in small school environments.

If new classrooms are to be constructed from obsolete spaces or combined to create larger spaces, the size of new classrooms is generally fixed at the average square footage of an existing classroom (anywhere from 550—750 square feet depending on the year the building was constructed). Optimal classroom size for twenty-seven students per room is 650 square feet or more.

Teresa Ball



FLEXIBLE CLASSROOM ORGANIZATION



MOVABLE INSTRUCTIONAL FURNITURE



Student desks come in various shapes. They can function on their own or in multiples to facilitate small group learning.



Teacher's desk is freestanding instead of fixed to augment flexible furniture arrangements. Permanent teacher storage is relocated to a stationary wall unit. To increase mobility and to free more computers for students, the dedicated teacher's computer is replaced by a shared computer stored in the classroom, and one in a teacher workroom.

FIXED INSTRUCTIONAL EQUIPMENT



Multipurpose storage cabinets hold all kinds of objects that support multiple uses of the same classroom.



White boards and display surfaces allow teachers to present multiple types of media simultaneously.



Shared computers provide for a variety of computing situations. Students or teachers can use them individually or in small groups. Although wireless technology is recommended for flexible classrooms, fixed computers supplement wireless networks.

Note: the room layouts on this and on subsequent pages of this chapter are adaptations based on New York City School Construction Authority standards for room layouts.

Applying the footprint:
Science demonstration room

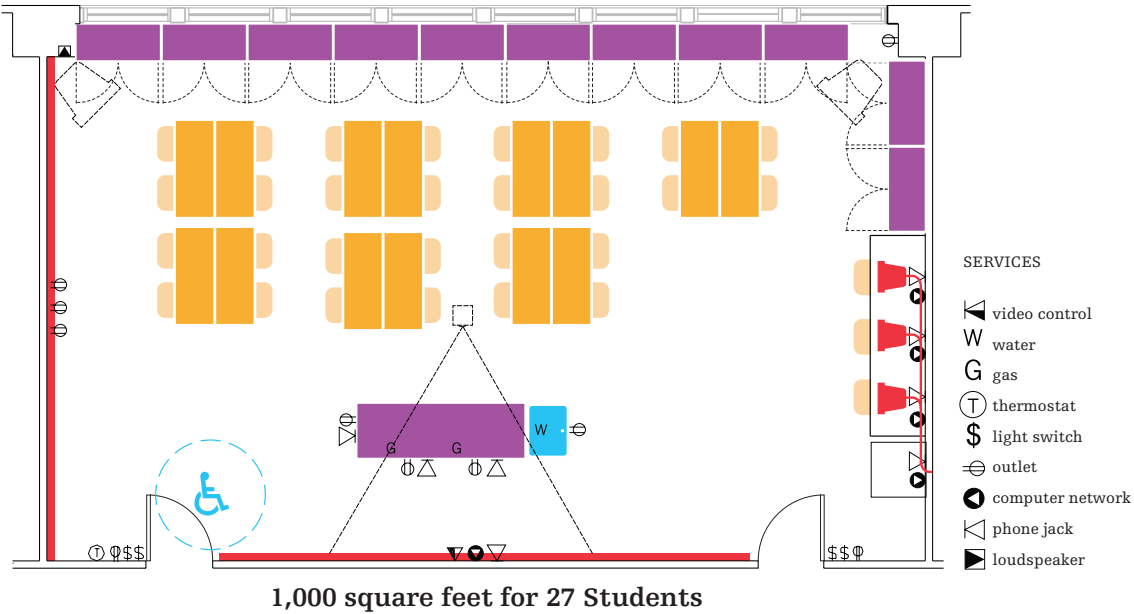


Philip Greenberg

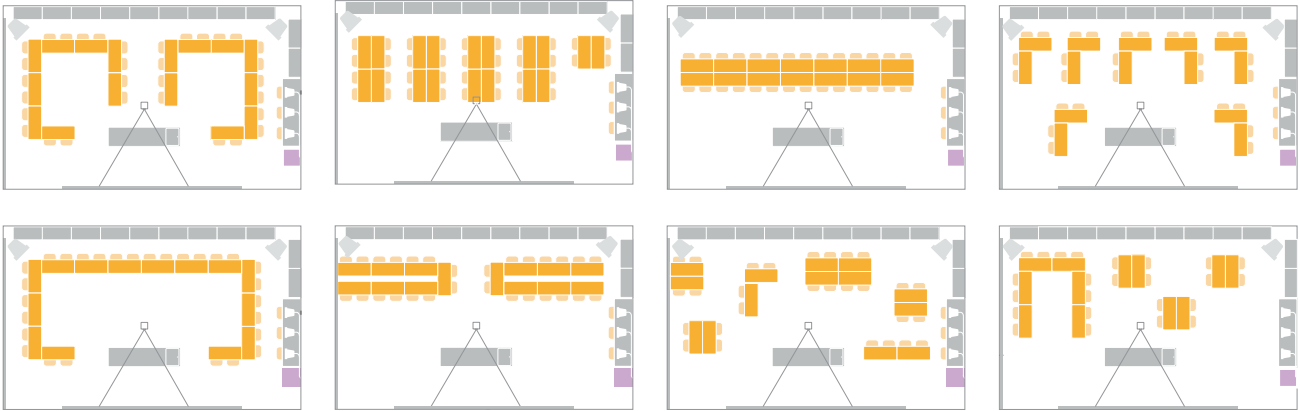
A science demonstration room allows for both science instruction and select experiments.

Changes in the professional world of science are transforming the teaching of science in a classroom setting. Hydroponic labs, outdoor gardening, biotech labs, and partnerships with botanical gardens are all new ways in which science is being taught. Classroom design needs to support these changes. The configuration of tables, as well as the placement of infrastructure in the room, should encourage students' hands-on participation in science instruction.

The science demonstration room features an installed teacher's demonstration table and display surfaces, along with flexible furniture to allow for a four-seat table arrangement. The teacher's table is typically installed along the room's wider dimension to enable better student viewing. Ideally, the teacher's demonstration can also be projected overhead on two wall-mounted diagonally placed TV monitors or LCD screens.



FLEXIBLE CLASSROOM ORGANIZATION



INSTRUCTIONAL FURNITURE



Student tables should be movable if possible and have a working surface that allows for chemical use without damage.



The science demonstration table is placed on the long end of a rectangular room to open the view to more students.

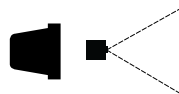
White Boards and Display Surfaces



Storage Cabinets



Shared Computers



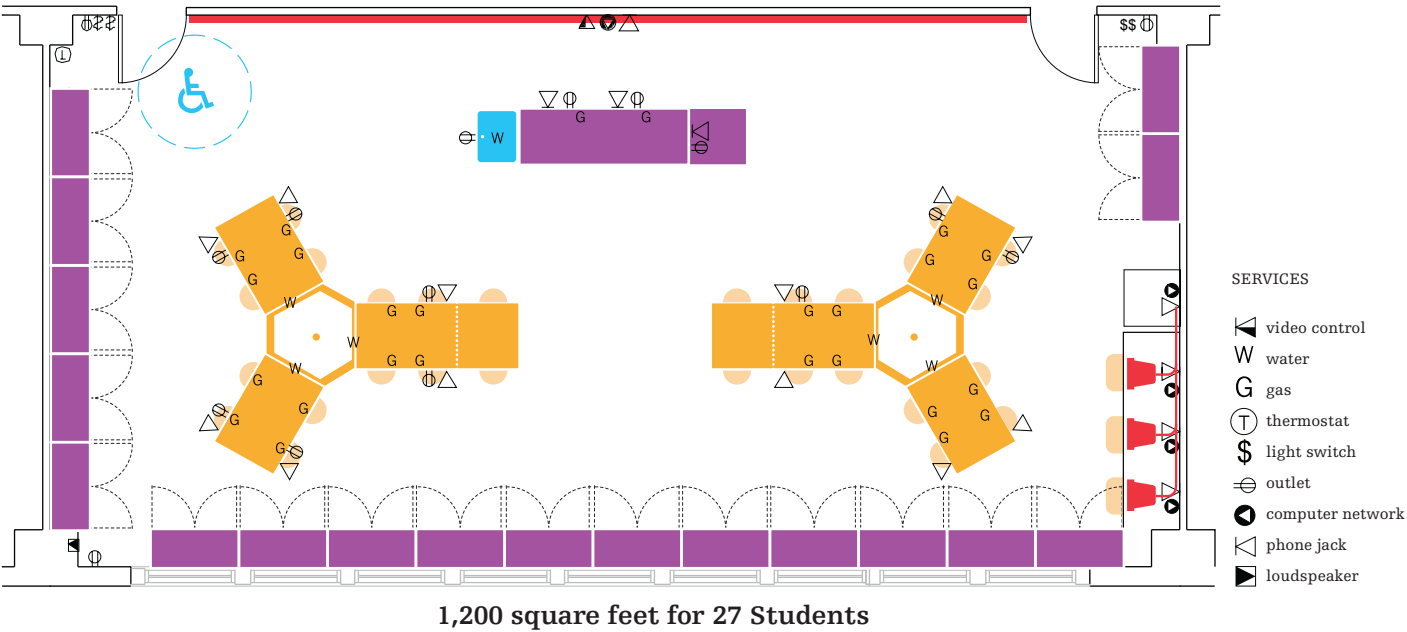
The science demonstration monitor and LCD projector are placed to facilitate full visibility of demonstrations for all students.

Applying the footprint:
Science lab

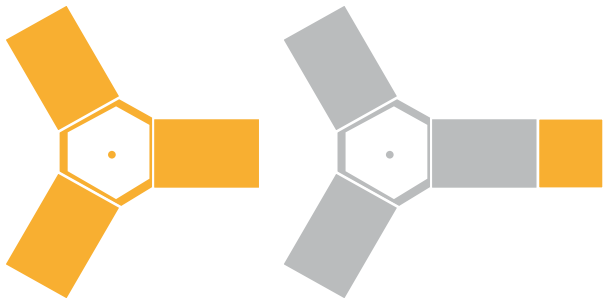


Students perform hands-on experiments in a science lab.

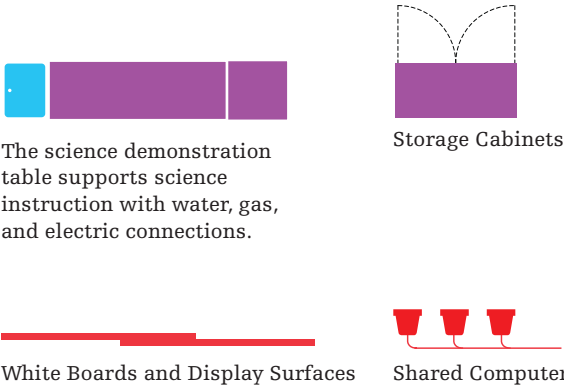
The science lab is a 1,250 square foot space with an adjoining prep room between 200 and 400 square feet in size. Furnished with built-in trifacial tables, these student stations have water, gas, electricity, and ports for using laptop computers to access virtual labs, electronic experiments, and collections of findings. These labs used the standard New York City School Construction Authority room specifications and design. A decision emerging from the master planning was that each small school where feasible and not cost prohibitive should have one lab located within or proximate to their school to minimize excessive travel between classrooms.



INSTRUCTIONAL FURNITURE



Trifacial tables provide the most flexible science instruction, accommodating chemistry, biology, and earth science in one lab. Two trifacial tables with an extra leaf seat twenty-eight students, thus eliminating the need for three tables required in a standard lab.



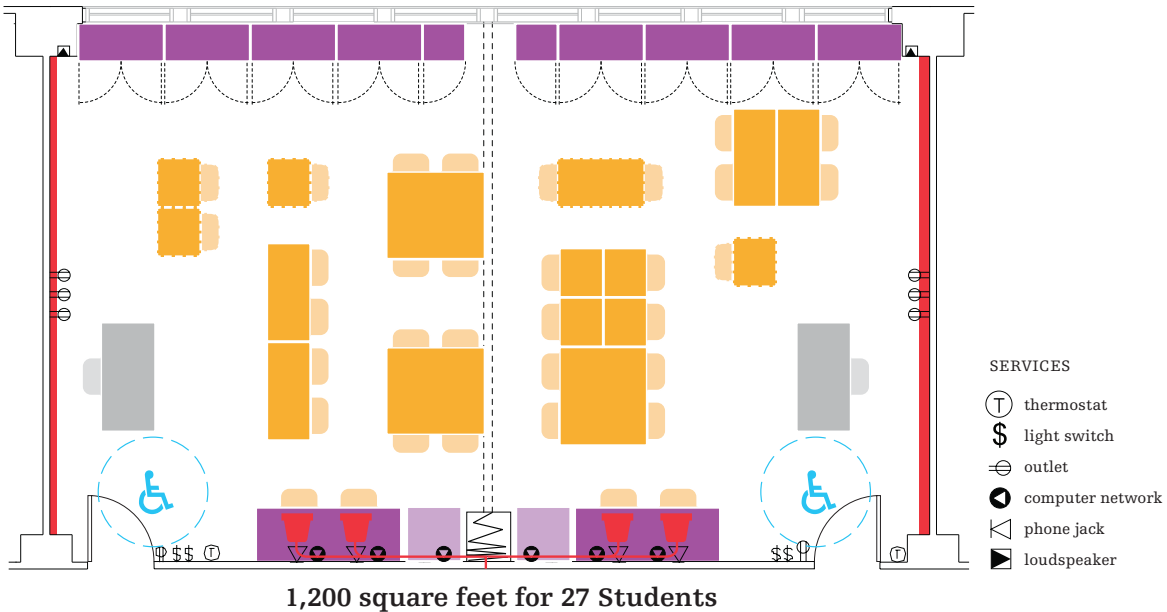
Applying the footprint:
Special education room



Raymond Johnson

This flexible classroom space with a movable partition supports different learning needs.

A key aspect of small schools is to provide flexibility to accommodate the needs of different levels of learners. The special education room, a 1,000 square foot space with a movable partition in the center, is designed to provide multiple spaces for tutoring, small group instruction, and other enhanced services. A flexible configuration is especially important as the schools grow, since the number of special education students and their instructional needs will likely change over time.



FLEXIBLE CLASSROOM ORGANIZATION



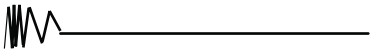
MOVABLE INSTRUCTIONAL FURNITURE



Student tables are movable, recombinant, and may come in individual sizes for pull-out purposes. All seating is detached from tables and when possible soft seating should be added for comfort.



Teacher's Desk



A movable wall ensures that special education teacher-to-student ratios can be maintained while allowing the room to open up if a smaller ratio is not necessary. Partitions are also useful in creating temporary breakout spaces for advisories or small meetings.

FIXED INSTRUCTIONAL FURNITURE



Storage Cabinets



Shared Computers

White Boards and Display Surfaces

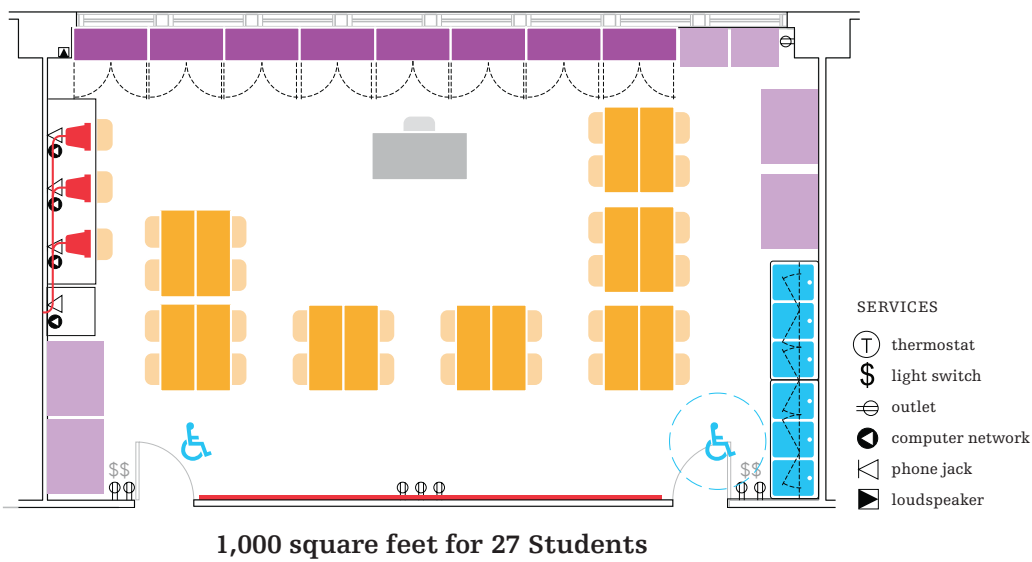
Applying the footprint: Project room



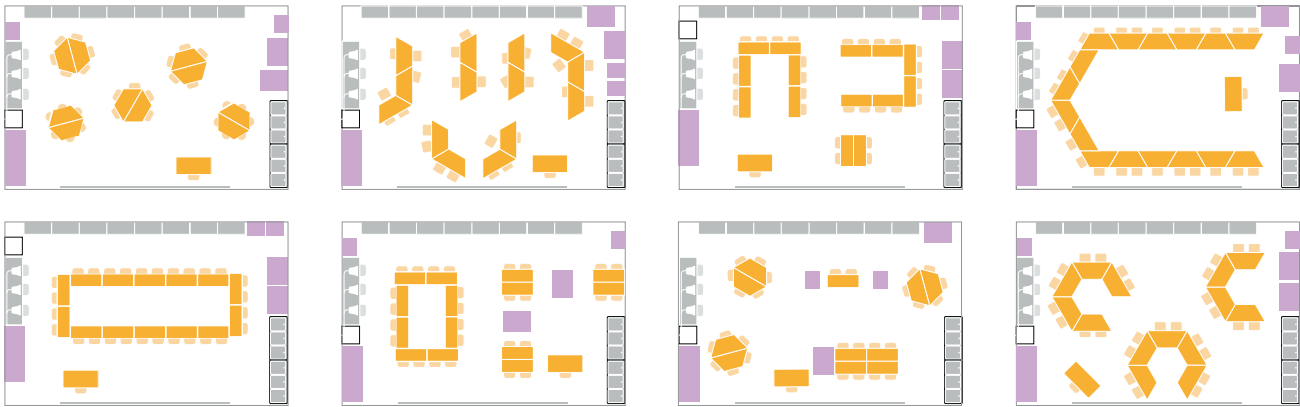
Students complete a lab in a greenhouse at the site of the school's community partner.

Matthew Septimus

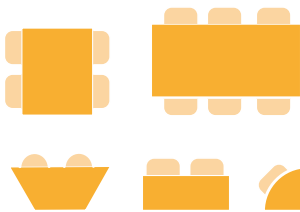
Many small schools have a unique instructional theme. The small school footprint supports a school's special instructional programs and equipment with the project room, an oversized room of between 900 and 1,000 square feet, where students can plan, construct, and display a variety of projects. It typically contains furniture, equipment, and other features appropriate to the school's theme and is designed for maximum flexibility so that it meets efficiency standards. The built-in furnishings resemble those of an art room, with abundant storage, sinks for cleanup and other uses, computers, and display surfaces. Project room use is based on a school's needs, and can accommodate diverse themes, including an electronic keyboard lab, water treatment tanks, and a black box theater.



FLEXIBLE CLASSROOM ORGANIZATION



MOVABLE INSTRUCTIONAL EQUIPMENT



Student desks come in various sizes. They function on their own or in multiples, and larger tables may be desired to accommodate oversized projects.



Freestanding storage can change locations as projects change. It can also help to subdivide rooms and give students personal access to projects.

FIXED INSTRUCTIONAL EQUIPMENT



Storage Cabinets

White Boards and Display Surfaces

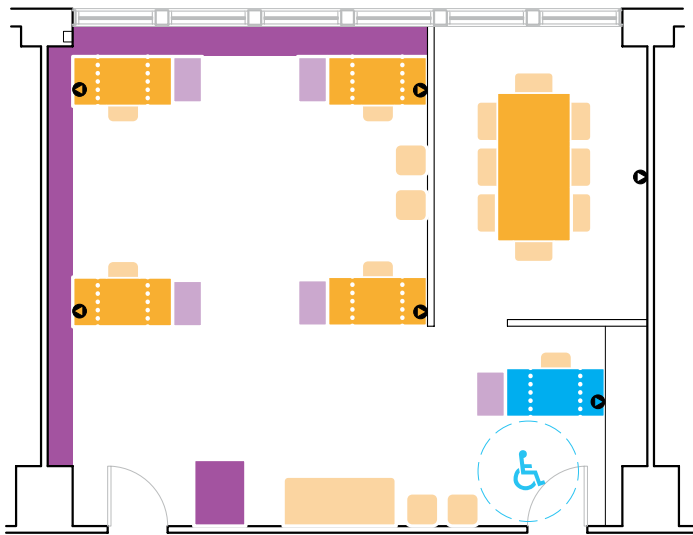


Shared Computers

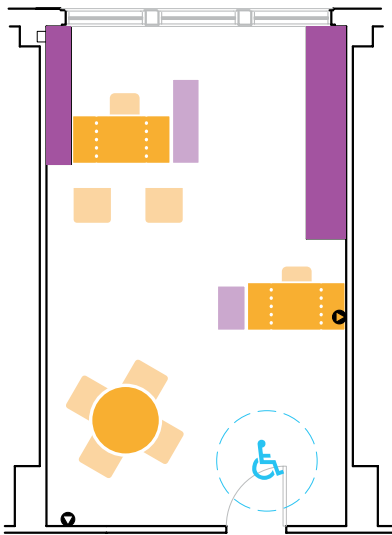


Two triple sinks are recommended and allow for projects requiring access to water. Examples include art, photography, and environmental science.

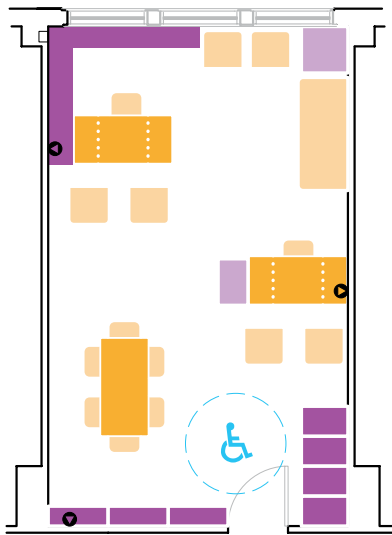
Applying the footprint:
School offices



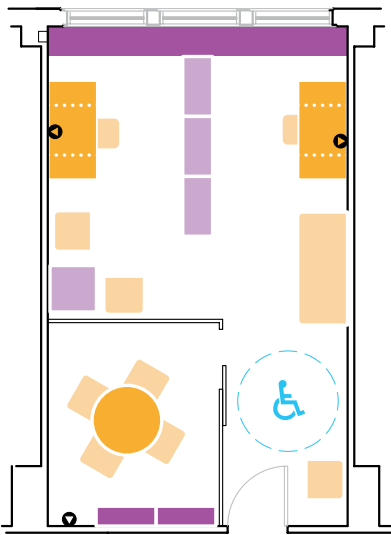
Administrative Hub
750 square feet



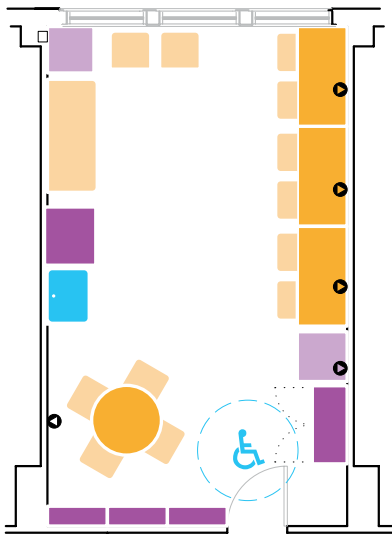
Principal's Office
375 square feet



Parent/Partner Office
375 square feet



Guidance Office
375 square feet



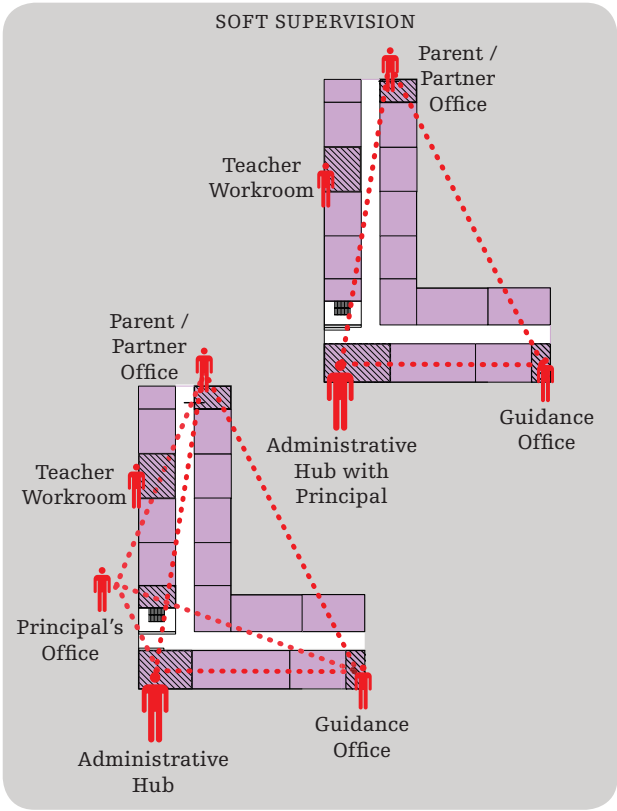
Teacher Workroom
375 square feet

The small school footprint allots approximately 2,600 square feet for office space, divided into five different rooms. These offices house school leadership, provide private space for guidance counselors to meet with students, enable teachers to work and plan instruction together, and ensure meeting space for both parent coordinators and partner organizations.

An office of approximately 750 square feet is the central hub for a small school. This office has space for four to six staff members (serving a secretary, assistant principal, and school aides), and provides a closed small meeting area. It also contains copy machines, computers, mailboxes, and file cabinets.

Three rooms spread throughout each small school provide additional office spaces. Rooms are between 300 and 400 square feet and are used as the Guidance Office, Principal's Office, and Parent/Partner Office. When separated from the hub, these office spaces provide soft supervision by dispersing adult presence throughout the school. Each of these three spaces incorporates open or closed conference space to allow for additional private meetings.

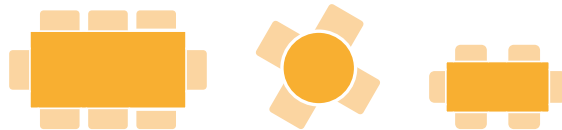
The small school footprint also includes a dedicated teacher workroom for each school. This space provides a work area, computer stations, and telephones for teacher use. Using flexible furniture, this room also supports collaborative planning. Space constraints in some campus buildings may require that this space be shared with a proximate school.



OFFICE FURNITURE



Desks and Worktables



Conference tables can be enclosed or out in the open.

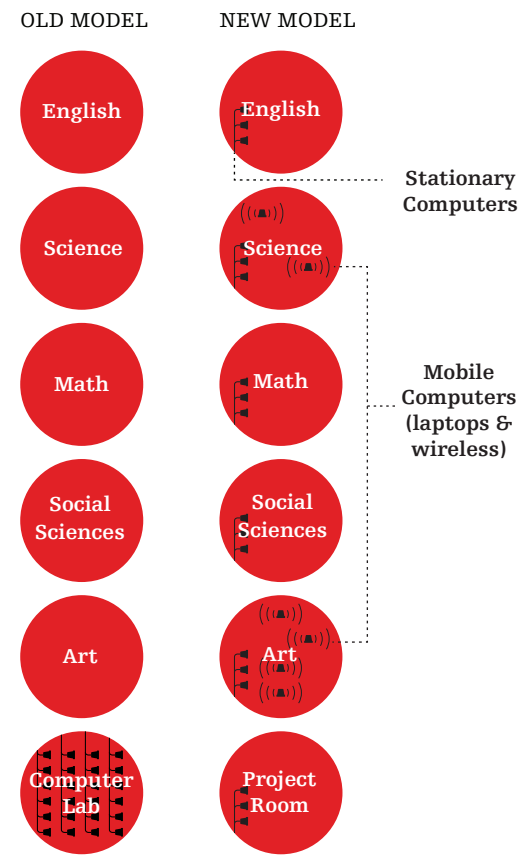


Soft seating provides comfortable areas for waiting or informal meeting.



Multiple types of storage allow for flexibility both in furniture arrangements and in types of information stored.

Customizing the footprint:
Instructional solutions

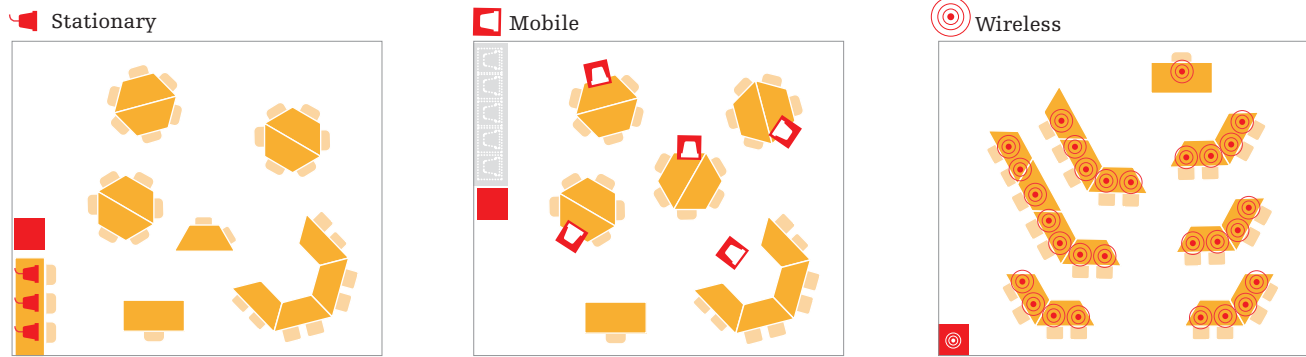


Schools can work within the small school footprint to adapt it to their specific instructional needs. How does a school best utilize this standard flexibly? The following examples of computing and theme rooms show how schools can use the footprint to maximize their instructional resources and program spaces for multiple purposes.

Computing

Many schools have addressed technological needs over the last decade by adding a classroom full of computers. In most cases, these computer labs are already out of date. These rooms send a message that technology is not incorporated into the work of education but segregated from instruction.

The small school footprint seeks to distribute computers into the classroom setting as an essential tool of teaching and learning. One option is to locate a few computers in every classroom, giving some computer access to students and teachers alike. Another option is to use mobile laptop carts so that computers can be brought to the classroom and used flexibly in it. Secure storage space, with electrical capacity for charging the computers, is an essential element for successful use of the laptop cart. Wireless technology presents a third option, freeing computing from designated spaces and allowing integration into the instructional content areas.



Students learn to use video equipment in a theme room.

Philip Greenberg

Theme Room

Some schools have adapted one of their allotted rooms for use as a theme room. Like the project room, the theme room is a workspace dedicated to support the school's particular theme. The theme room allows for the customization of one of the standard classrooms of the small school footprint, enabling the school to deliver its unique instructional program.

COMMUNITY RESEARCH LAB:

This theme room accommodates one wireless computer per student with Internet capability for computer research.

School for Community Research and Learning,
Stevenson Campus

Typical Classroom Theme

MUSIC ROOM/PIANO:

In addition to a small stage at the front of this theme room, the walls are lined with outlets to accommodate piano keyboards for all students.

Celia Cruz Bronx High School of Music,
Walton Campus

Project Room Theme

FORENSICS LAB:

Biology and chemistry classes can explore life-threatening dangers such as smoke inhalation.

Fire Department of New York High School of
Fire and Life Safety, World Academy for Total
Community Health,
Jefferson Campus

Science Lab Theme

WATER RESOURCE CLASSROOM:

Aquariums, science equipment, and multiple water-filled basins equip this theme room for teaching water chemistry, aquiculture, and marine biology.

New York Harbor School,
Bushwick Campus

Science Demonstration Theme

4. A Participatory Master Planning Process



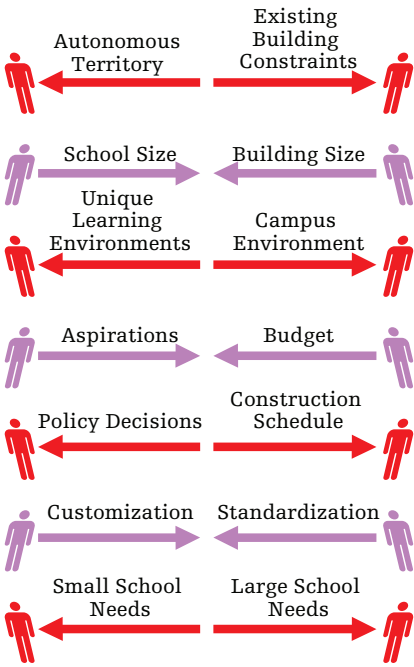
A teacher directly addresses a student's question outside of a traditional lecture format.

Philip Greenberg

The push and pull of collaboration

Dividing territory and building assets among multiple organizations is a complex undertaking. A participatory master planning process can help navigate the complexities and sow the seeds of a cooperative environment, where all participants come to view the campus as an asset. A participatory process allows all the stakeholders in the building to articulate their educational goals, imagine the instructional space that would support those goals and sort out the challenges of sharing campuswide assets. The following guidelines can help shape an effective process:

- Include all key stakeholders.
- Build multiple feedback opportunities into the process.
- Set aside time to allow for full participation.
- Clearly communicate a schedule to all stakeholders.
- Establish consensus as the ultimate goal for resolving the competing needs of stakeholders.
- Create expectation that construction will be phased to follow the year by year growth of each school.

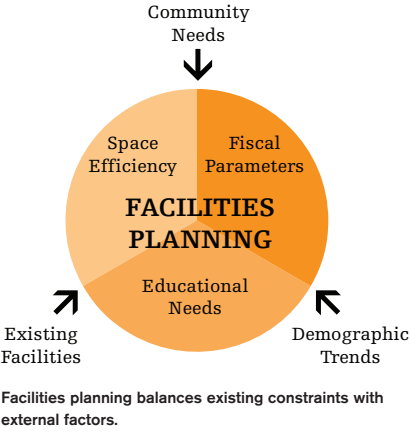


Many factors in the master planning needed to be reconciled to reach consensus on final decisions.

Faced with the challenges of reconfiguring the large campuses, planners need to respect the multiple perspectives of all schools involved and reconcile a broad set of “pushes and pulls.” For example, the pace and goals of restructuring the large schools differ from campus to campus. During the transitional years, the large school has space requirements that the master planning process must accommodate. Office space, shared use of campus facilities, and provisions for students with special needs are important elements to be understood year by year, for large and small schools alike. Master planning allayed these tensions by first developing a design that showed each school's territory after all schools in the building had grown to their ultimate size. After a consensus was reached on this long-term master plan, designers then proposed construction to address the needs for the coming school year. With clarity on the long-term master plan at the beginning of the process, there was a comfort in trade-offs and compromises to accommodate near-term needs for all schools on the campus.

The psychological ramifications of the building transformations are also substantial. The faculty and students of large schools may be understandably uneasy with the evolution of their institution and the need to share space in often crowded quarters. Small schools are sometimes perceived as contributing to the overcrowding. In turn, the small schools may feel cramped into a small corner of a building, with few resources to establish their identity or support their specialized programs. A commitment to a collaborative master planning process allows for competing priorities to be reconciled for the benefit of all students in the campus.

A participatory process



Participatory master planning: Three case studies



Multiple players involved in the master planning process.

One of the goals of the restructuring work is that it be fully participatory, capturing the expertise and needs of principals, community partners, youth, parent representatives, and representatives from the central school district. The New York City School Construction Authority, as an important facilitator of the master planning process, managed the design process, ensured compliance with the building code, minimized the total amount of construction, oversaw the budget, and time-staged implementation of the master planning over multiple years to meet the needs of the evolving campus schools.

In a participatory process, the issues of pure design are inseparable from the education reform efforts underway in the building. For instance, a school with a community health theme has different space and equipment requirements from an arts and technology themed school. Similarly, a school with high numbers of special education learners has different requirements from a school with few. The consultative planning process allows school leaders from each school to work toward agreement on issues that affect both their schools and campus. Each stakeholder can align the restructuring goals with the individual school's themes and the needs of different types of learners.

The following pages present three case studies of the evolution of the master planning process at the Evander Childs Campus and Adlai Stevenson Campus in the Bronx, and Bushwick Campus in Brooklyn. Each of these campuses is in the second or third year of the growth of their small schools and the corresponding transition of the large school.

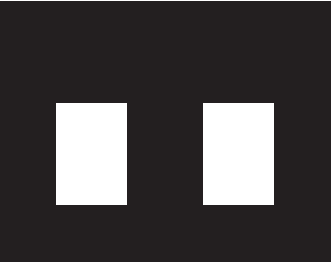
The master planning process is iterative. At each stage, stakeholders assessed plans in relation to their individual needs, each advocating on behalf of their school. The principals worked together as a team to come to terms with where and how they would each carve out autonomous territory in the school, and where they would compromise to create an enriched campus. They debated how to maintain autonomy, how to rationalize equitable allocation of resources provided through the master plan, and how to manage the balance between building efficiency and school efficacy. Many early plans, later revised, helped catalyze new ways of thinking about the problem, leading to consensus on the final layout. Ideas that arose on one campus spread to other campuses. The following three case studies reflect major themes that are emerging in the master planning of the other campuses currently in transition.



Students help define and design their school environment.

Janette Kim

Evander Childs Campus



Bronx, NY/Region 2/Capacity 2,776
AVERAGE CLASSROOM SIZE: 600 square feet

SMALL SCHOOLS IN EVANDER CAMPUS

- Bronx Academy of Heath Careers, 2004
- Bronx Aerospace Academy, 2003
- Bronx High School for Writing & Communication Arts, 2004
- High School for Contemporary Arts, 2003
- The High School of Computers & Technology, 2004
- Bronx Lab School, 2004



Evander Current Building Utilization
(2003—04 School Construction Authority Bluebook)

Evander Childs High School, built in 1913, is a typical public high school building of its era, built around two courtyards. Corridors have classrooms on both sides, placing limits on dramatic rehabilitation or deconstruction of walls. Once a showcase for the aspirations of a community, Evander Childs High School has, in recent decades, suffered from disrepair and declining student achievement. It is typical of other Bronx high schools: it is overcrowded, students are scanned by metal detectors upon entry, and the building infrastructure is outdated. Its large auditorium is in disrepair, its science labs are period pieces located in one wing of the building, and its computer resources are severely limited.

As the official planning began, Evander Childs Campus was already the host site for six small schools with large school phase-out plans uncertain. Due to the overcrowding in the region and throughout the Bronx, the fate of Evander Childs High School itself and whether it would continue to accept ninth grade students in the fall of 2005 was undecided. On this campus, extreme overcrowding and ensuing security problems were a backdrop for all decisions.

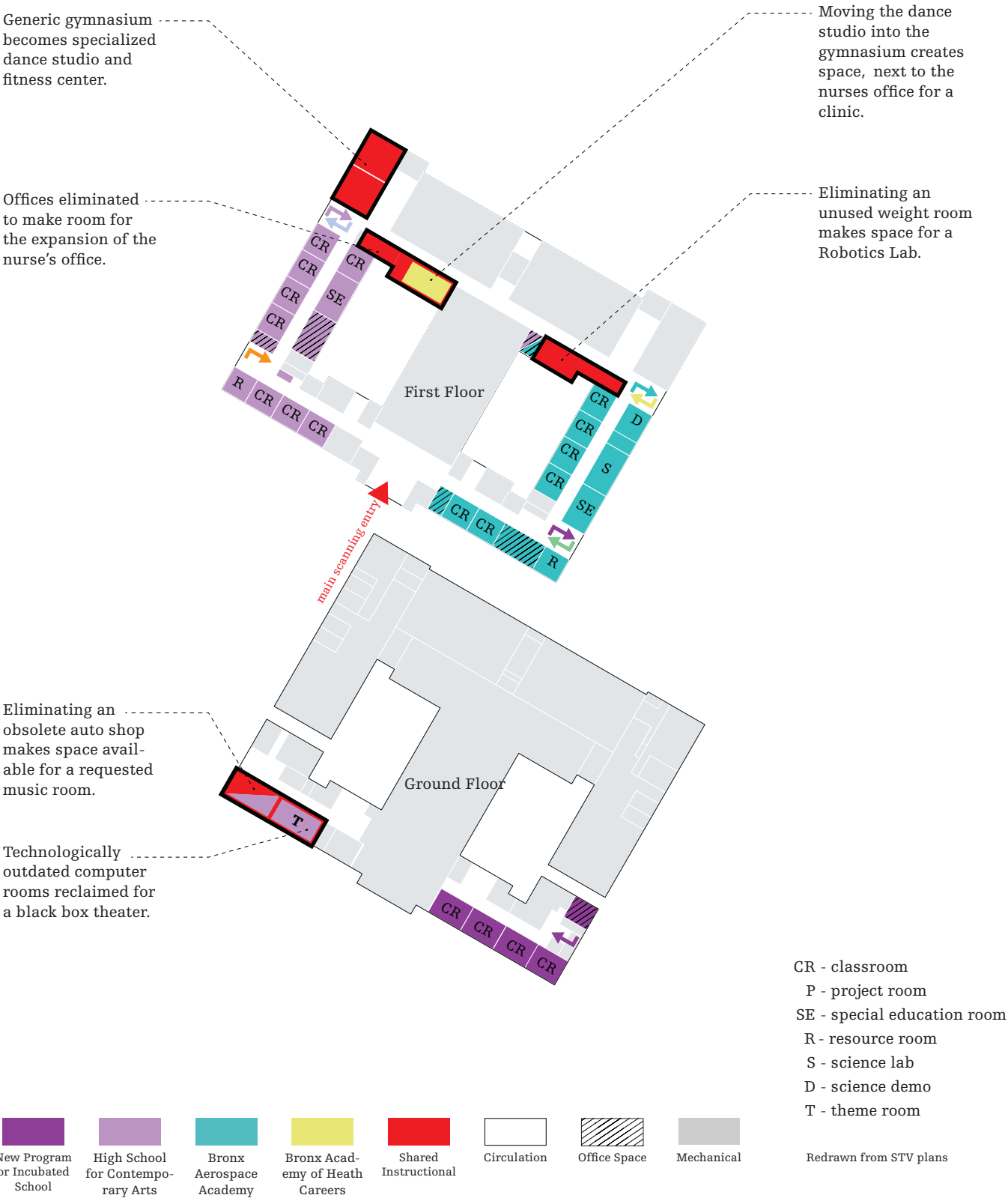
Challenge

With a stated building capacity of 2,776 students, the Evander Childs Campus could possibly have housed seven small schools. However, such an arrangement would not have provided adequate resources to the individual schools, thereby shortchanging their instructional program.

Master planning participants first focused on how many schools to place into the building. Overcrowding created pressure on all parties to fit as many schools into the building as possible. Six schools seemed to fit comfortably, producing a plan that used space efficiently while supporting the special instructional needs of each school. However, given the demographic need, the group began to explore the addition of a seventh school. It worked, but at what cost? The ensuing debates weighed the benefits: space efficiency to address the acute overcrowding or more generous space allocations to improve each school's ability to support student success? Space efficiency in this context meant a deficit in each small school's unique program requirements. The architects explored all possibilities to mediate between these compelling priorities.

Solution

Discussion of these trade-offs resulted in a plan for six small schools growing to full size, plus an additional four classrooms with attached administrative space that could be used to incubate a new school, site a small program, or accommodate the remaining students in the phasing out of Evander Childs High School.



The decision to put seven full schools in the building would have hurt all of the schools and overtaxed the shared resources from a programming perspective. This solution allowed the building to house slightly more students than the building's stated capacity, addressing concerns about the efficient use of space, while still providing each school with one and sometimes two extra spaces to meet the needs of their specialized curriculum.

Challenge

To ensure their students' safety, each school wanted to retain as much of their school program as possible within an autonomous territory. But the configuration of the building worked against this aim.

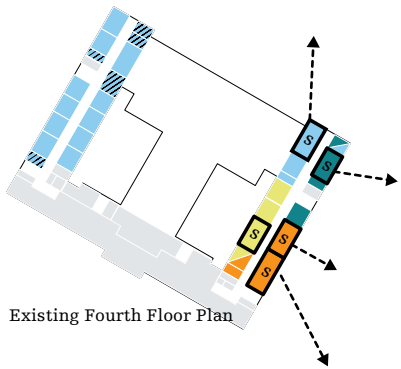
The science labs and science demonstration rooms, as in many older schools, are centralized in one wing of the building. The cafeteria, located on the fourth floor, posed noise and security concerns throughout the day. The gymnasiums are on the ground floor. With shared facilities spread out in this way, circulation from an autonomous school territory to the rest of the shared campus spaces was perceived as dangerous and time-consuming. In the worst case, students had to walk downstairs, across a long hallway to another wing of the building, and back upstairs to the labs.

"It would take ten minutes to get from our school to a science lab," one principal said. "I would rather put a mobile lab in a classroom than send my students there."

Solution

All parties agreed that science labs and science demonstration rooms would be relocated within the autonomous territory of each school.

While some stakeholders objected to these relocations based on the costs of developing new science labs, the school leaders, making a strong case for the autonomy and contiguity of their schools, argued that these science functions were key elements in the small school footprint. In the end, this decision prevailed and placed limits on other building renovations. The master planning team also created a dedicated circulation system using reserved stairwells to limit interaction between schools and control the flow between individual schools and shared resources in the building.

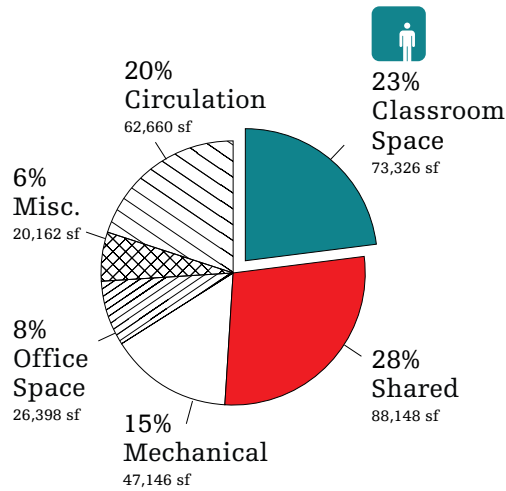


Existing science lab configuration before master planning brought labs into each small school's territory.

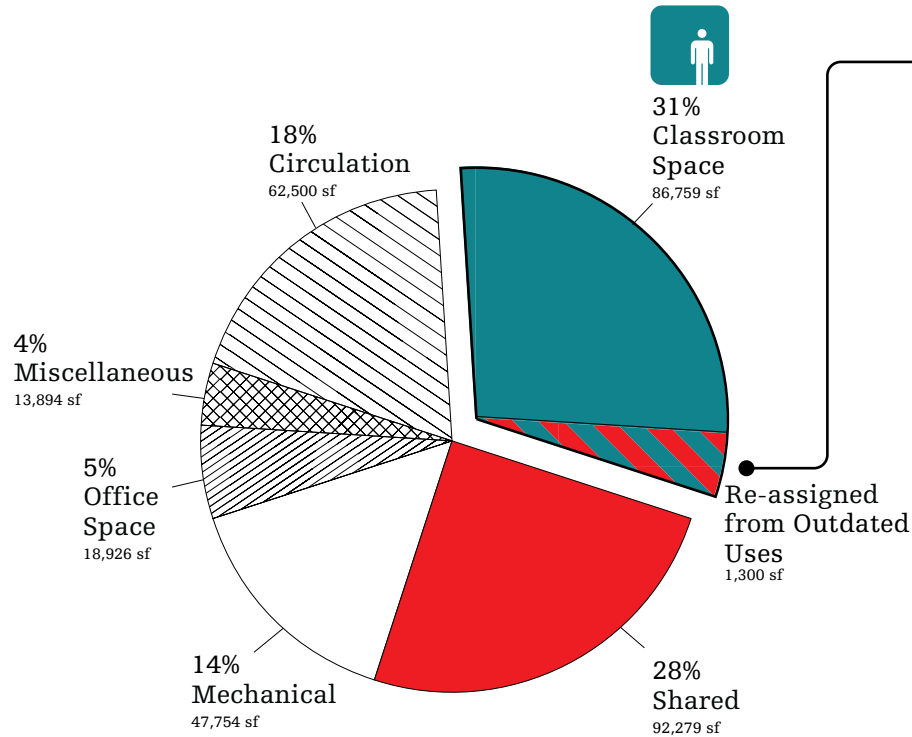


Space Usage Analysis

LARGE BUILDING
34 students per classroom
Building capacity 2,776 students
Numbers based on building survey: Fall 2004



REORGANIZED CAMPUS
27 students per classroom
Building capacity 2,776 students
Numbers based on signed-off master plan: 2005



Evander Childs Campus Reorganization

The master plan has succeeded in adding 8 percent more classroom space to Evander Childs Campus. More than that has been gained, however, by rethinking “instructional space” as a cohesive system. The physical dispersion of offices throughout each small school, the assigning of circulation patterns, and a visual branding project that creates an identity system for each small school and the campus building all contribute to a system of instructional space supporting the programs of these autonomous small schools.

Reclamation of Space to Increase Instructional Square Footage

SHARED SPACE AS INSTRUCTIONAL

Outdated Use

AUTO SHOP

COMPUTER ROOMS
Replaced by wireless systems.

GYM

DANCE STUDIO

OFFICES
Strategic placement of office space allows each space to serve multiple functions, thus reducing the total administrative square footage.

WEIGHT ROOM
Eliminated to gain valuable main hallway space.

MEZZANINE
Unusable because of code changes.

Reassignment for Small Schools

MUSIC ROOM
This campuswide shared asset was specifically requested by the High School for Contemporary Arts, but will be shared by all schools.

BLACK BOX THEATER
This specialized space is programmed by the High School for Contemporary Arts as essential to their curriculum.

FITNESS CENTER & DANCE STUDIO
Breaking this existing small gymnasium in half allows the space to function as both fitness and dance studios, better serving multiple schools from a scheduling perspective, as well as freeing up space.

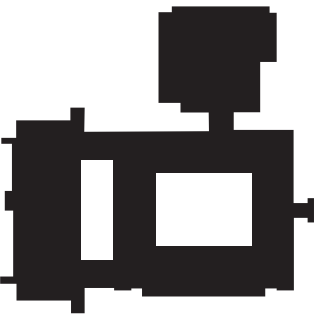
HEALTH CLINIC
Used both as a regular clinic and as an instructional space for the Bronx Academy of Health Careers.

CLASSROOMS

ROBOTIC WORK SHOP
A specialty Bronx program.

TOWN HALL
Requested by the small schools for programming groups too large for a classroom and too small for the auditorium.

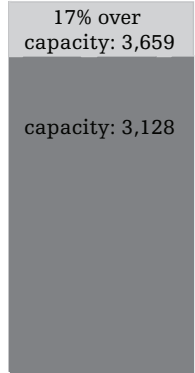
Adlai Stevenson Campus



Bronx, NY/Region 2/Capacity 3,128
AVERAGE CLASSROOM SIZE: 775 square feet

SMALL SCHOOLS IN STEVENSON CAMPUS

- The Bronx Guild High School, 2002
- High School for Community Research & Learning, 2003
- Millennium Art Academy, 2004
- The Gateway Academy for Science, Mathematics & Research, 2004
- Pablo Neruda Academy for Architecture & World Studies, 2004



Stevenson Current Building Utilization
(2003—04 School Construction Authority Bluebook)

Adlai Stevenson High School, built in 1971, is another large, overcrowded Bronx high school. As the master planning process began, five small schools were located in the building, along with the large school. The small schools were at different stages of growth, varying from one to three grades of their eventual grade nine to twelve structure. The large size of Stevenson High School's incoming ninth grade combined with its low graduation rate created a barrier to the phase-out of the large school. The small school principals shared the fear that possible overcrowding down the road would force them to accept more students per class, undermining their ability to function as small, personalized schools. Frank discussion of these concerns opened a key dialogue about the importance of the master planning process in determining school size and spatial entitlements.

In response to these concerns, the most pressing priorities became the number of schools and the standardized footprint of rooms to which each school was entitled. Simply dividing the capacity of the building by 432 students per school meant that eight schools could fit into this building. The final master plan accommodated eight schools, including three that would open in future years after further downsizing of Stevenson High School. To economize on construction and save budget dollars for other special-purpose rooms, the master planning team decided to leave the science labs as is, located in one wing of the building. They also decided that, where possible, the schools in the building would grow from their current location.

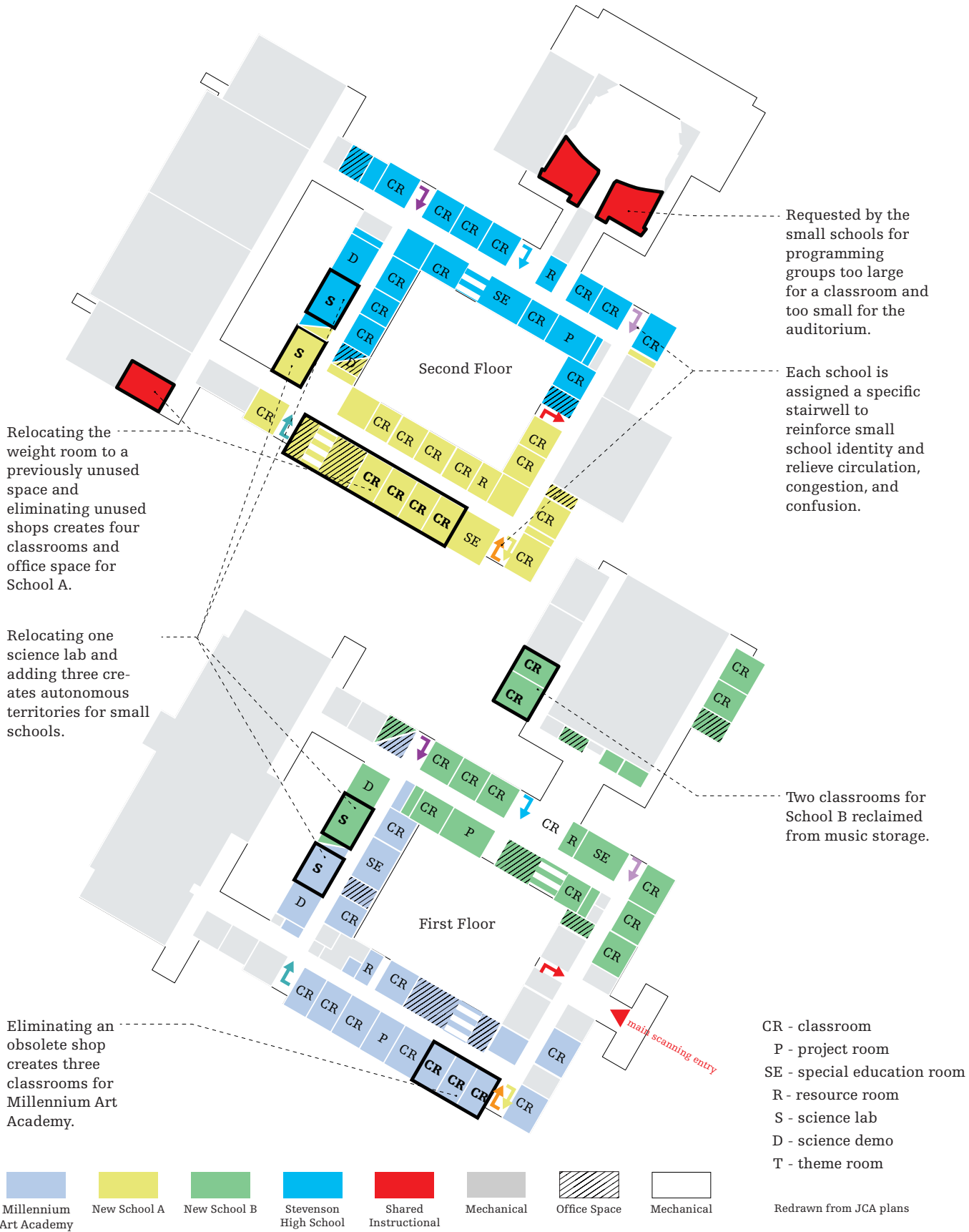
Challenge

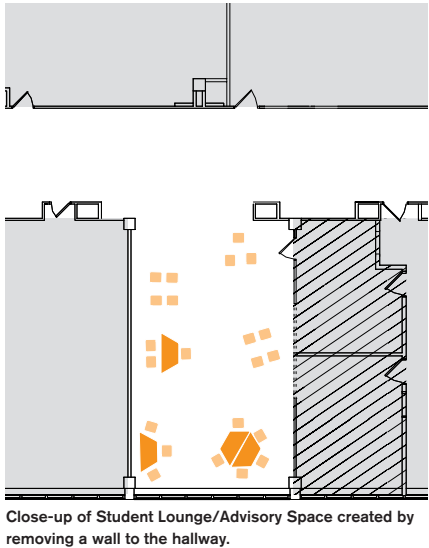
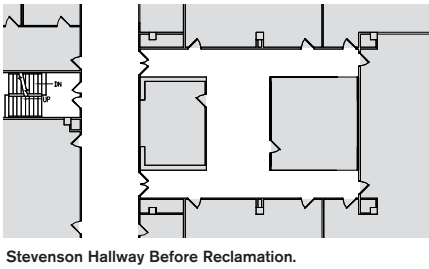
To deliver an instructional program in line with specific schools' thematic goals, some of the campus schools required a specific location within the building.

Millennium Art Academy, for example, needed space on the ground floor since their curriculum involves intergenerational programs between students and senior citizens, many of whom are mobility-impaired. The Bronx Guild plans on capping its student population at 300 in order to manage planning-intensive individual internships for each student. These unique needs surfaced during a planning process that sought to be as equitable as possible in both the distribution of space and the choice of location within the building.

Solution

Each school started by articulating the needs of its unique instructional program. The Campus Council agreed that Millennium Art Academy had compelling reasons for its preferred location and that the Bronx Guild required a smaller territory with proximity to a dedicated stairwell for students leaving the building for intern assignments. These decisions simplified the rest of the school placements.





Challenge

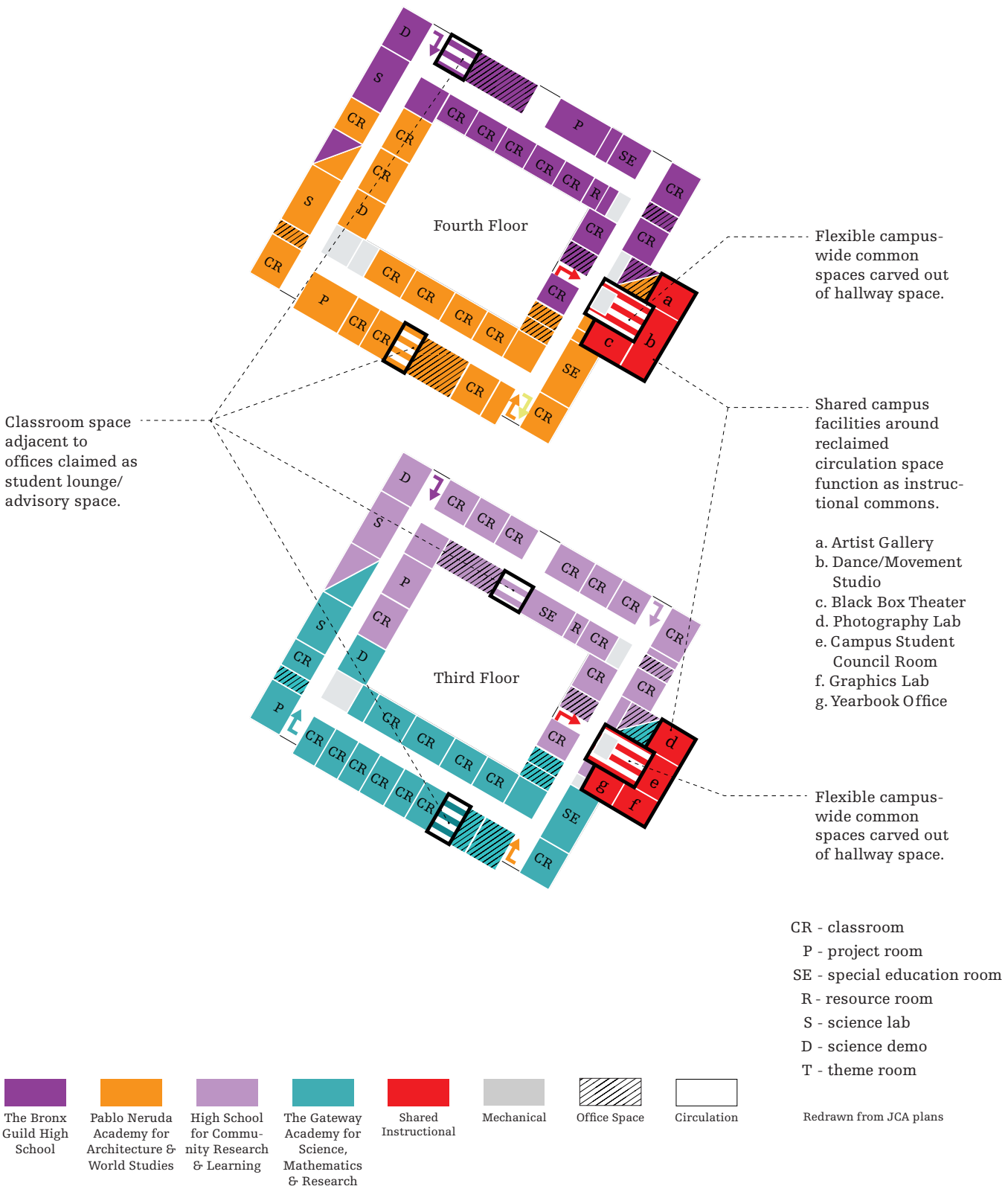
The first plan drawn up by the architects showed the floors divided unequally, with some schools in more desirable placements than others. Two schools were organized around former circulation spaces that they had adapted as common areas and hubs, while the other schools were located along hallways with no common space at all. The two schools with these common areas advocated for continuing occupancy of these spaces that supported their unique instructional programs. The other schools continued to express concern that their proposed locations were too exposed to foot traffic to meet their needs.

Solution

The Stevenson Campus Council emerged as more willing to manage shared campus spaces than principals on many other campuses. Capitalizing on their flexibility, the architects and planners redeveloped unique spaces into valuable campus assets. The hallway spaces claimed as hubs for use by specific schools in an earlier phase of planning were reprogrammed as shared common space for the campus. The classrooms surrounding these hubs were assigned campuswide programs such as graphic art production and photography.

In addition to giving the Stevenson Campus students opportunities to learn multiple specialized skills, this strategy eliminated the inequity that arose when only two small schools out of eight were designed around these very desirable hubs. Initial concern over shared campus assets invading the autonomous small school territory on each floor was countered by the instructional value of the proposed shared facilities, and the assurance that circulation to these areas would be restricted to the set of stairs directly across from the hub, rather than through corridors housing other schools.

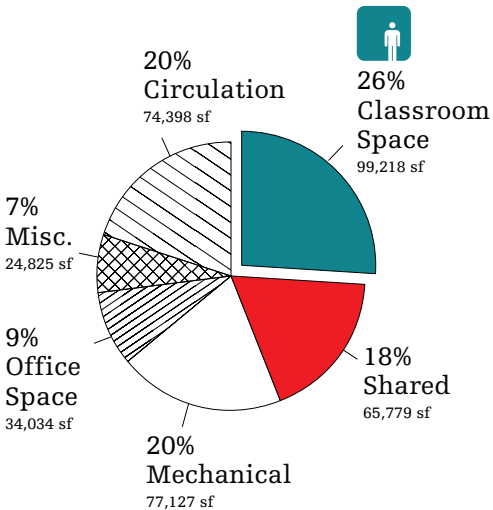
The discussion, by focusing attention on the value to a school of an open hub area, led designers to propose a small instructional commons for each school. Removing a wall to open a small classroom to the hallway or capitalizing on a dead-end corridor would create a student lounge or advisory meeting space. The Stevenson Campus Council endorsed this proposal.



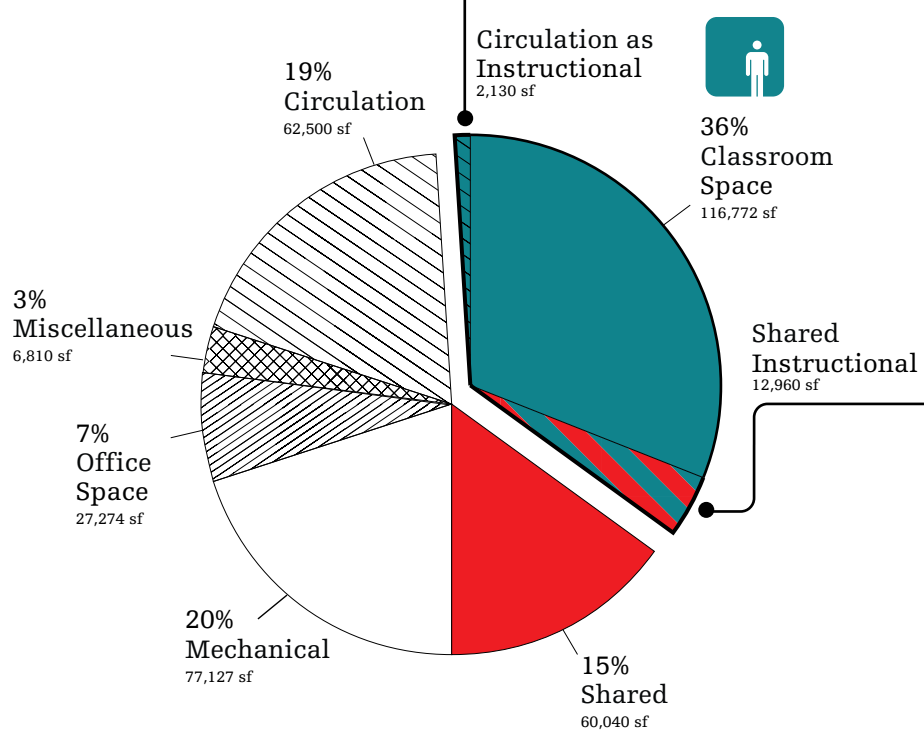
Space Usage Analysis

Reclamation of Space to Increase Instructional Square Footage

LARGE BUILDING
34 students per classroom
Building capacity 3,128 students
Numbers based on building survey: Fall 2004



REORGANIZED CAMPUS
27 students per classroom
Building capacity 3,128 students
Numbers based on signed-off master plan: 2005

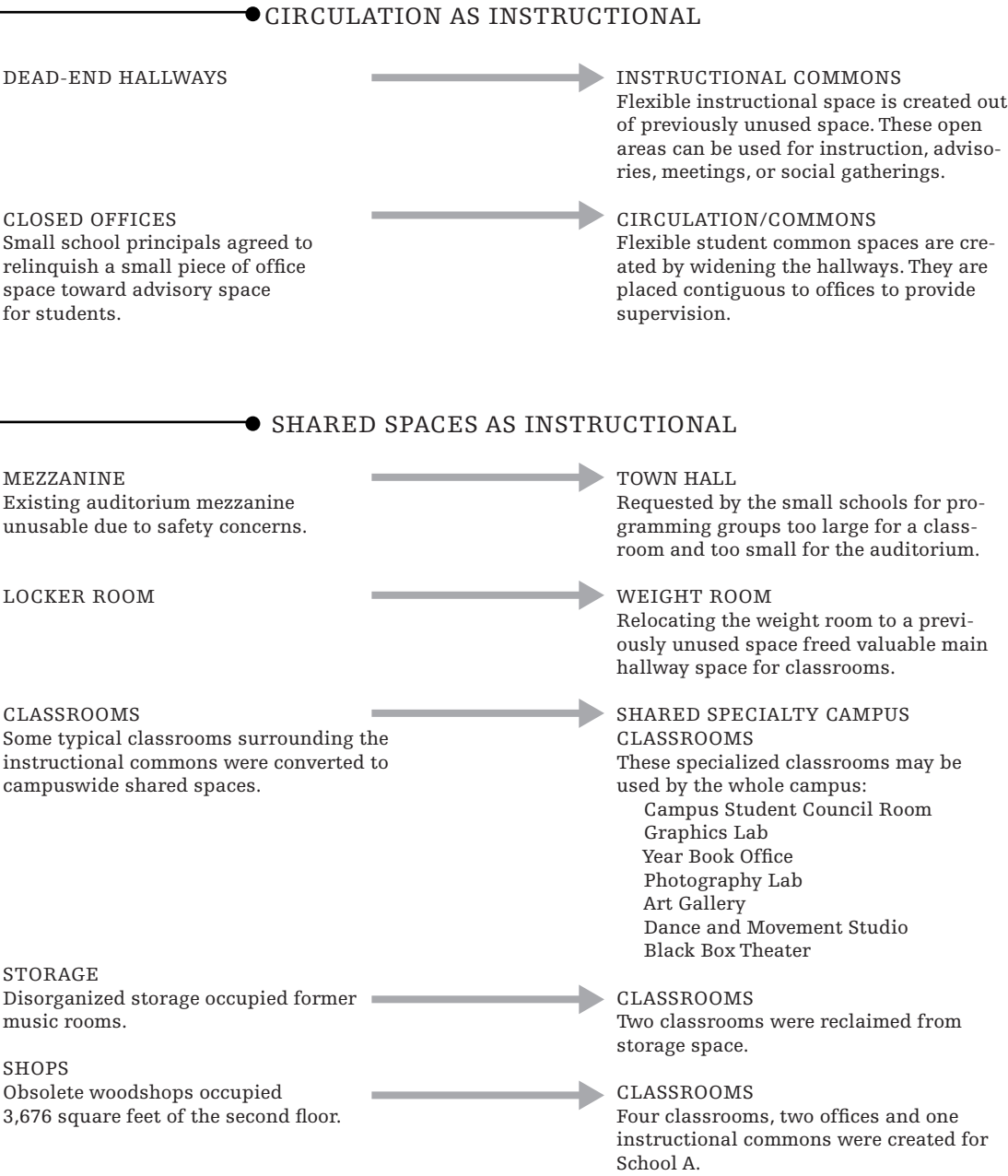


Stevenson Campus Reorganization

Once the master plan is complete, Stevenson Campus will reclaim 10 percent more classroom space. Like the Evander Childs Campus, “instructional space” is thought through as a cohesive system. The campus plan will eradicate some of the dead-end hallways endemic to the building, replacing them with space that can be used for instruction, meeting, or display. Circulation is distinct for each small school, allowing each school to develop an optimal schedule without disrupting classes in other schools. Shared space has been expanded from traditional functions like the cafeteria to encompass new specialized classrooms shared between schools, pooling additional resources that no single school could support.

Outdated Use

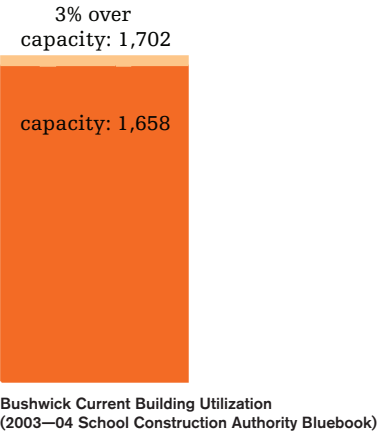
Reassignment for Small Schools



Bushwick Campus



SMALL SCHOOLS IN BUSHWICK CAMPUS
Academy of Urban Planning, 2003
Bushwick School for Social Justice, 2003
New York Harbor School, 2003



Bushwick High School is an old school with a new wing added. The main building was constructed in 1911 and an annex was added in 1998. The new annex has bigger classrooms and better light, creating inequities between the two sections of the building. As the planning began, Bushwick was the host site for three small schools, all housed in the main building. The existing Bushwick High School occupied the new wing and was designated for phase-out.

The Campus Council had earlier decided to give the choicest location to the original school in an effort to defuse tensions within the building, where Bushwick High School students felt undervalued as growing small schools encroached on their territory. However, to have a constructive discussion about a long-term master plan, the Campus Council had to address the outstanding problems of the main building.

Challenge

Initially, to preserve ninth-grade seats in the region, the planning team explored placing four small schools into the Bushwick Campus. The first-draft master plan presented to the Campus Council was a model of the newly agreed upon small school footprint, based on a total of four small schools sharing the building. Efficiency of space was the priority; each school was assigned the same number of classrooms, students, and an equitable share of the building. This plan presented the bare minimum in space allocation for each school as per the small school footprint.

The standardized footprint that assigned only sixteen instructional spaces did not include any specialized spaces needed to support their unique programs. The standardized footprint was also designed to serve 432 students, an assumption that did not square with the capacity of individual floors within the building, which does not neatly divide in equally sized spaces. The floors in the old building and the new building were also not horizontally level—the second floor of the annex connected to the second floor of the original building via a staircase. Horizontal orientation for a small school across the two different structures at different levels would create access problems for handicapped youngsters.

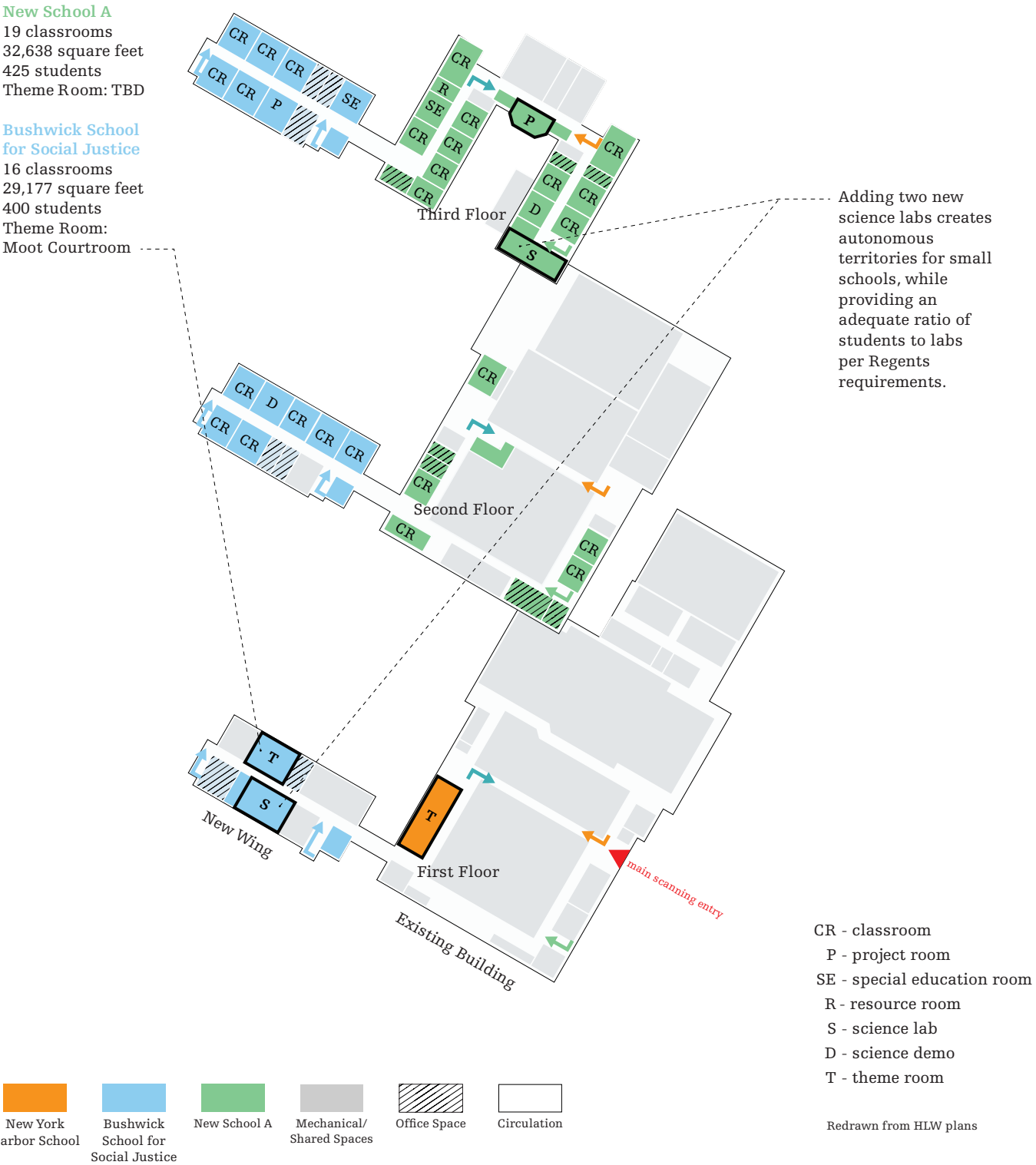
Solution

Two meetings were arranged in response. First, a design session was planned at the school, at which everyone worked with the principals in an attempt to “fit” the school programs into the footprint. The results were not satisfactory, and the principals registered their concerns.

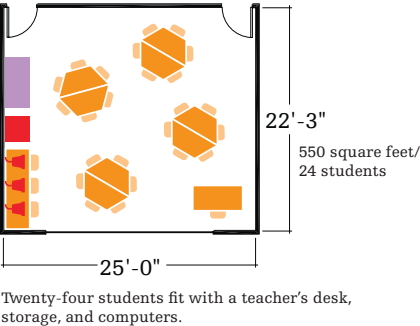
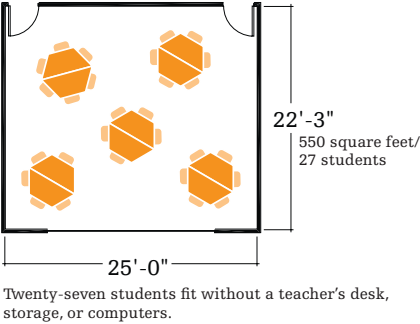
A second meeting was smaller and more focused, empowering the principals to come up with a solution that worked for them. They operated within the parameters of maintaining the student capacity of the building while being

New School A
19 classrooms
32,638 square feet
425 students
Theme Room: TBD

Bushwick School for Social Justice
16 classrooms
29,177 square feet
400 students
Theme Room: Moot Courtroom



BUSHWICK TYPICAL CLASSROOM SIZE



flexible in the assignment of numbers of spaces and the size of schools. The result was a consensus solution. The targeted long-term enrollment of each school was set to utilize either one or more floors of the old building or all three floors of the new building. By recognizing that the natural contiguous spaces of the building aligned poorly with the 432 enrollment number used as a small high school reference point across the school system, it was possible to solve for a plan that maintained the required student capacity of the building while providing each school a distinct territory with a clear threshold. The final master planning design reflected these decisions.

Challenge

While the New York City School Construction Authority standard for a typical classroom is 750 square feet, many of the classrooms in Bushwick’s main building are only 550 square feet. A space analysis revealed that 550 square feet was not big enough for twenty-seven students organized into small group arrangements. Since flexible classrooms are a priority for small school learning, this simple fact also helped steer the process in a new direction. In yet another way, the built environment of Bushwick Campus required a deviation from the standard small school footprint of sixteen spaces each holding twenty-seven students.

Solution

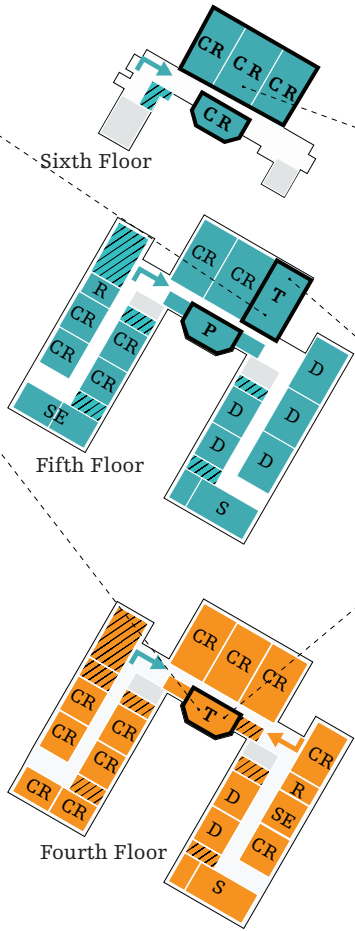
The planning process used this space analysis as a point of departure. The principals took into account that many rooms in the old building were below standard size in determining the appropriate long-term enrollment target for each school. Not only did school sizes deviate from the norm to fully occupy the natural neighborhoods created by the building’s idiosyncrasies, but the smaller rooms were deemed as capable of housing a maximum of twenty-five students.

Academy of Urban Planning

19 classrooms
32,638 square feet
450 students
Theme Room: TBD

New York Harbor School

17 classrooms
30,331 square feet
375 students
Theme Rooms:
Water Resource Room, Boat Building Shop



The standard small school footprint is based on assumption of average sized classrooms of 750 square feet. Many classrooms in Bushwick are as small as 550 square feet.

Removing two obsolete spaces and relocating two shared music rooms gains 3,240 square feet for four Academy of Urban Planning classrooms on the sixth floor.

The central placement of each small school’s project or theme room reinforces their territory and identity, providing a secure access point.

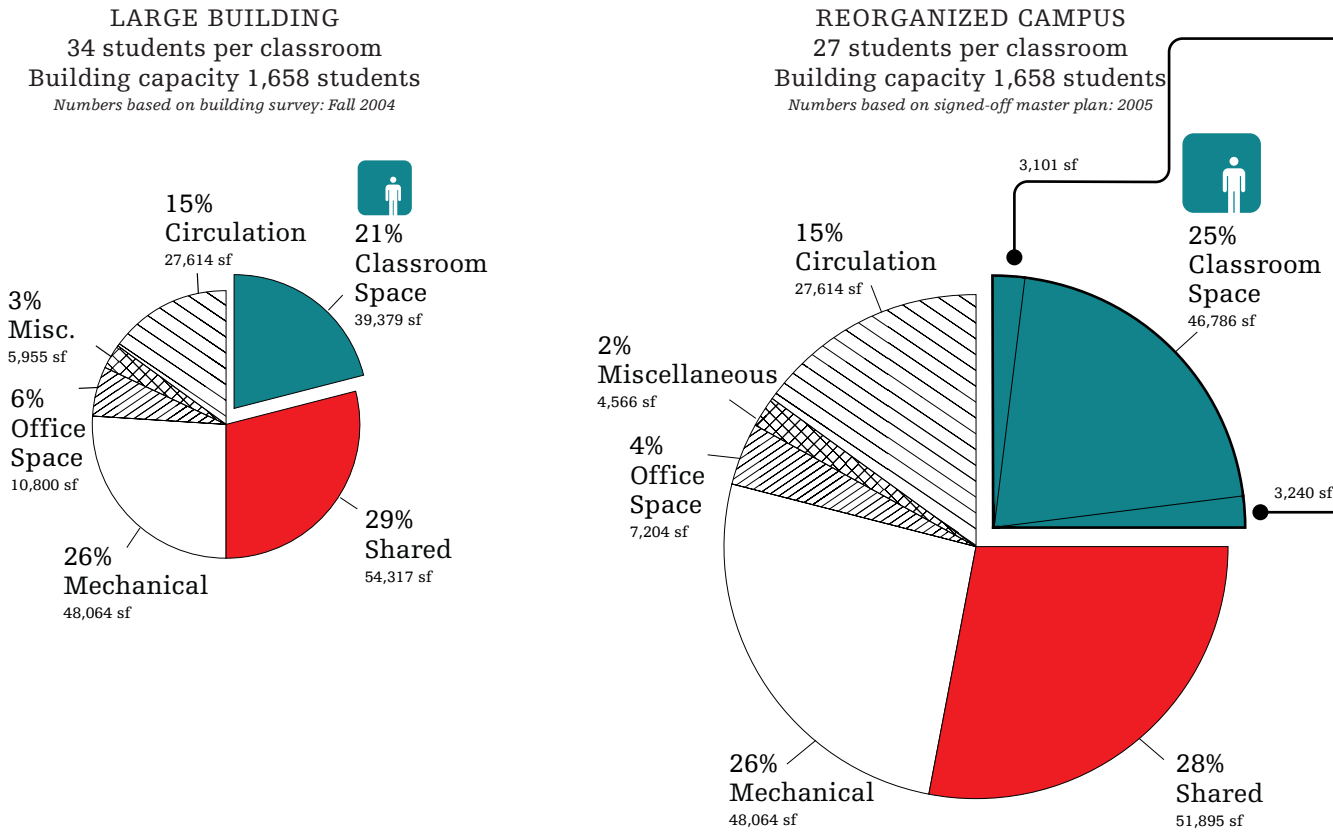


- CR - classroom
- P - project room
- SE - special education room
- R - resource room
- S - science lab
- D - science demo
- T - theme room

Redrawn from HLW plans

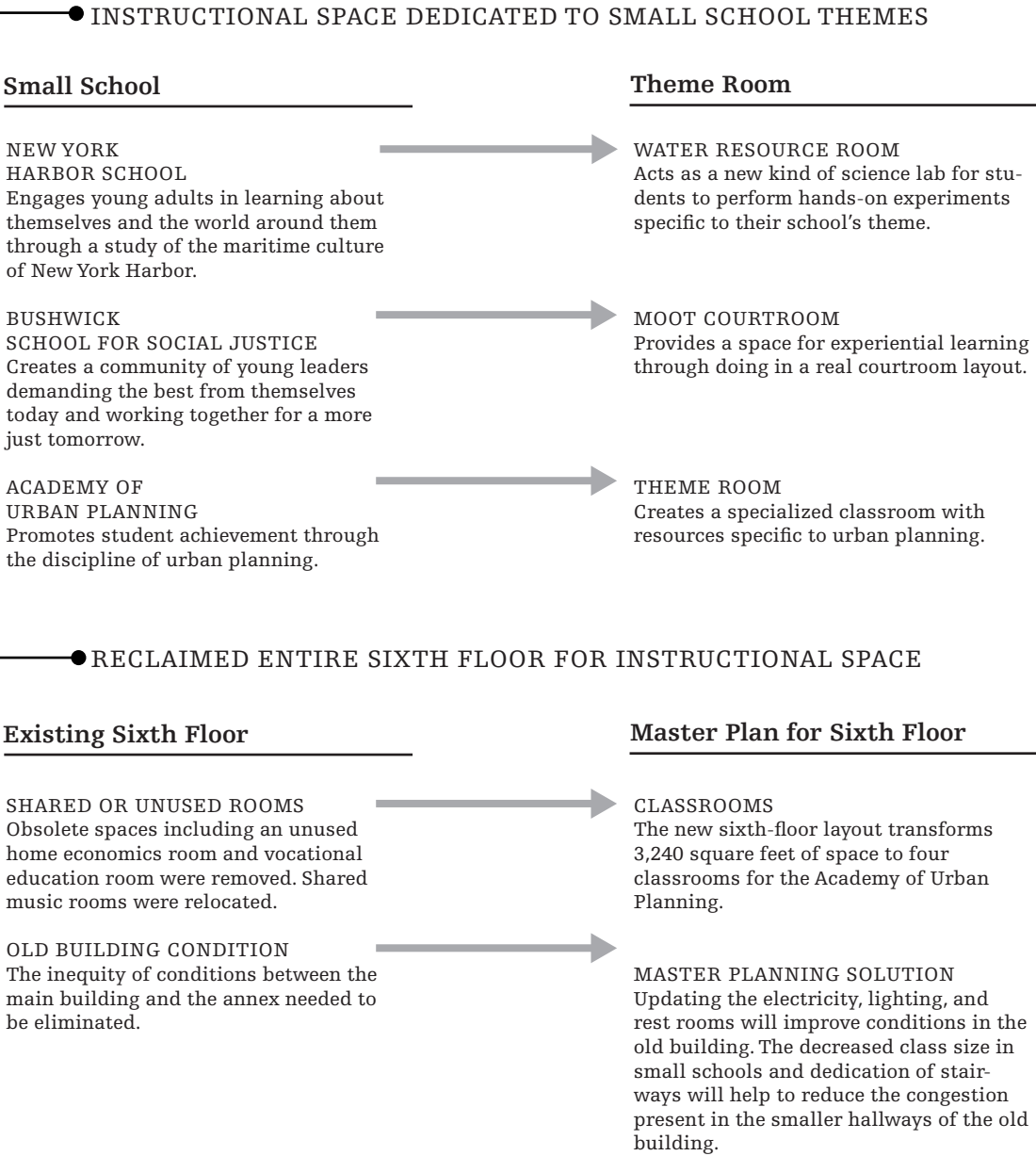
Space Usage Analysis

Campus Adjustments to Support Small Schools’ Instructional Needs



Bushwick Campus Reorganization

Although the master plan added only 4 percent to potential classroom space, the reorganized campus will support the small schools in significant new ways. Breaking through the walls of certain corridors in the old building improves its quality of light and allows each school to use this location as a threshold, organized around its theme. Furthermore, the reorganized campus contains schools of various sizes– sizes which make sense for each school. Mechanical, administrative, circulation, classroom, and shared space serve to reinforce the instructional environment of the campus.



5. The Campus Transformation Process: Implications and Lessons Learned



Small school students pause during a collaborative group project.

Philip Greenberg

A national need

As more small secondary schools begin to appear in urban centers across the country, school districts will confront challenges in adapting space similar to those New York City has encountered. Large school buildings constructed within the last eighty years present siting opportunities that few communities are wealthy enough to ignore. Using them “as is” is unlikely to yield environments that support high-performing small schools. However, in districts where land is limited and the buildings are in reasonably good condition, a participatory master planning process can create cost-efficient campuses for housing effective small schools. What follows are some lessons learned from this process in New York.

Lesson 1- Campuses can evolve into learning networks

New York City's small school strategy deliberately targeted low-performing high schools for transformation. The master planning effort detailed in these pages not only brought to the surface the challenges of adapting

old structures to new uses; it also revealed opportunities for creating communities where schools are able to support each other while developing their own identities, cultures, and educational philosophies and practices. The work of jointly solving issues around the use of space frequently helped build conversations among co-located schools on sharing student programs, instructional resources, and promising pedagogical practices as well. Campuses are evolving to be more than the sum of their parts.

Lesson 2- Designing spaces for instructional innovation requires extended dialogue between educators and architects

The master planning work also created more direct links between instructional innovation and space design than in typical school renovation projects. Each new small school had gone through a lengthy planning process before opening its doors to students. Principals and partner organizations in these schools came to the table with a high degree of clarity about the unique characteristics of their schools. The conversations between architects and school personnel focused on translating these existing curricular and school philosophy decisions into spatial terms: how could a floor accommodate advisory periods where all adults in a school meet simultaneously with groups of twelve to fifteen students when the limited number of available classrooms had a capacity of twenty-seven students? How could circulation be organized to minimize disturbance when one school had ninety-minute morning humanities blocks while an adjacent school had sixty-minute science periods three times a week? Solving problems of this kind frequently required the development of a new vocabulary to serve as a bridge between instructional and architectural professionals. The small school footprint, and the project room are cases in point.

Lesson 3- Standards work best as points of departure

While the creation and application of a standard small school footprint was critical to reaching decisions, the standard was always a jumping off point for needed customization. An adjustment to the standard was introduced into nearly every campus to meet the needs of each school and the idiosyncrasies of each existing building.

Lesson 4- Process is critical

As twenty-one campuses followed roughly the same process, lessons learned and design strategies migrated from campus to campus through the network of meetings and architects. The participatory process designed to include school communities yielded movement and consensus. There was, however, a constant decision rule. Within budget and time constraints, the building should adapt to the needs of schools; the schools should not have to change their programs to fit the space. Ultimately, transforming schools and school buildings must be grounded in an educational vision of what students need in the twenty first century.

Credits

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Students use multiple seating types in the newly renovated Bushwick Campus cafeteria, courtesy of MTV: think over your school.

Teresa Ball